

ANNUAL REPORT

TO THE

CITY OF BIRMINGHAM EDUCATION COMMITTEE

OF THE

SCHOOL MEDICAL OFFICER

GEORGE A. AUDEN, M.A., M.D. (Cantab.), Ph.D. (Birm.)

F.R.C.P. (Lond.), D.P.H. (Camb.).

INCLUDING THE REPORT ON THE
SPECIAL SCHOOLS.

BY

CHARLES L. C. BURNS, M.R.C.S., L.R.C.P., D.P.M.

FOR THE

Year Ended 31st December, 1933

In accordance with Circulars 576 and 596

of the Board of Education.



BIRMINGHAM.

Templar Printing Works, 168, Edmund Street.

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For the Year ended 31st December, 1933.

**ELEMENTARY, SECONDARY & NURSERY
SCHOOLS.**

INTRODUCTION.

The work of the Medical Department during the past year reveals a steady progress rather than any advance of outstanding importance. The number of inspections (both routine and special) which have been made in the Elementary Schools is larger than that of any previous year, viz., 130,493. To this figure must be added the 7,075 inspections in the Secondary Schools. The number of children who have received dental treatment at the Clinics is the highest yet recorded, i.e., 40,867.

Facilities for treatment have been extended in two notable directions. In March the Clinic, which since 1912 had been carried on in the building formerly occupied by the Yardley Urban District Education Committee, was transferred to a larger and much more convenient building in Stratford Road, Sparkhill, a site which is admirably placed to meet the requirements of the extension of the City in this direction. Moreover, the move has allowed the equipment of a third Remedial Exercise Clinic, and the installation of an Ultra-Violet Lamp.

Secondly, at the beginning of December a new Clinic was opened in Slade Road, Erdington. This Clinic supplies a deficiency which has long been felt, and obviates the long journey entailed hitherto by attendance at Sheep Street or Albert Road Clinic. This additional Clinic has not meant any addition to the Medical or Dental Staffs, but a re-allocation of schools, and a transference of Medical Officers, Nurses, and Dental Surgeon from Sheep Street Clinic, which now serves a single district only.

The accompanying plan shews the general layout of the new Clinic at Erdington.

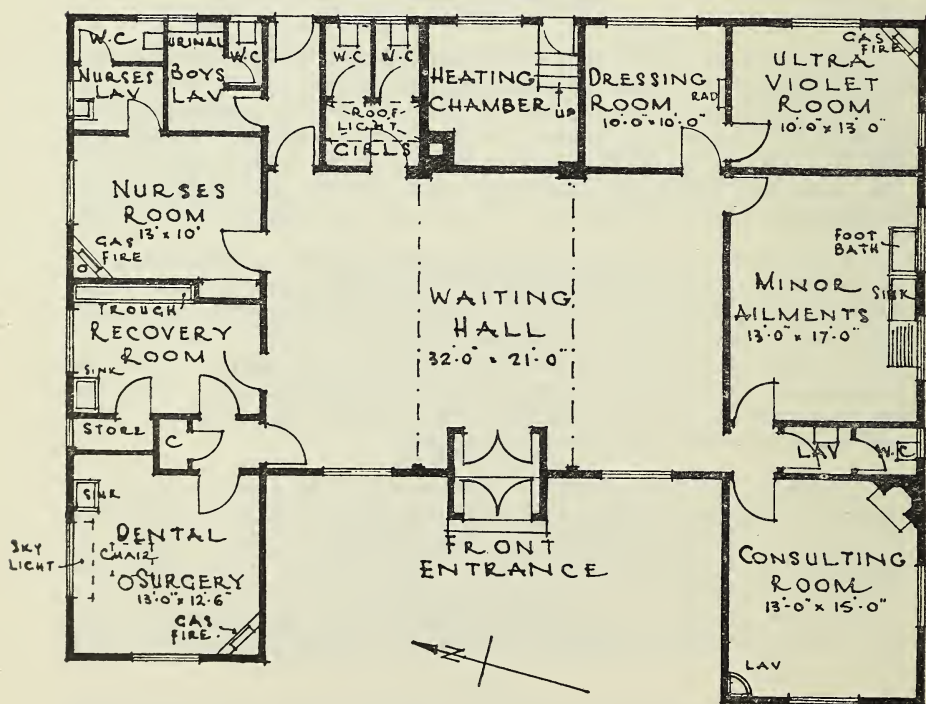
The building is constructed of a timber framing on a brick and concrete foundation, and is planned with a central waiting hall from which, it is seen, direct access is obtained to the Medical Officer's Consulting Room, Minor Ailments Treatment Room, Dental Surgery and Dressing Room adjoining the Ultra-Violet Ray Room. The Recovery Room adjoins the Dental Surgery, and is equipped with a special rinsing trough.

The building is heated by a low pressure hot water system and in addition, a number of rooms have small gas fires or radiators.

The waiting hall is cross ventilated by means of pivoted clerestory windows on the east side.

An out-building provides accommodation for perambulators.

· SCHOOL CLINIC · SLADE ROAD ERDINGTON



The Report for 1932, being the 25th Annual Report, gave an opportunity for a retrospective review of the growth and development of the School Medical Service for the first quarter century of its existence. The beginning of a second quarter century prompts a look into the future rather than into the past, even though a forecast of possible trends and developments is more difficult and precarious.

At the opening of the 20th Century the activities of Local Authorities were still largely engaged in the improvement of environmental conditions rather than in the consideration of the health of the individual member of the community as such. The notification of infectious disease had only been made compulsory in 1899; the reduction of the incidence of Tuberculosis, as of infant mortality, had scarcely been envisaged as within the bounds of administrative possibility. Except for a very small number of workers under voluntary organisations, Health Visitors were not yet thought of. For those unable to pay for the services of a private doctor, the only opportunity for treatment other than through the medium of the Poor Law, was provided by the Voluntary Hospitals, which were quite unable to deal in any adequate degree with the numbers who thronged the Out-patient Departments. As a result there existed a vast number of those conditions which we have become accustomed to group together as "minor ailments," especially amongst the children, which received no treatment at all, and were accepted as the inevitable lot of the poor. Such was the state of affairs when the medical inspection of children came into being in 1908, and only those who had personal knowledge of the condition of the children attending Elementary Schools before that date can fully realise the changes which have been brought about since that time.

But it may be admitted that the first and foremost object of a School Medical Service, developed under the authority of statute law and carried out at the expense of the community is to ensure that every young person shall enter upon the privileges and duties of citizenship, as far as possible unimpeded by physical and mental disabilities which are capable of removal or alleviation. The Medical Department of the local Education Authority is thus an integral portion of the general scheme of preventive medicine which has developed during the present century, for which the school organisation forms a convenient net through which children suffering from such disabilities can scarcely pass without detection. From this point of view the treatment of the great mass of trivial defects, which have only a general influence upon the ultimate healthy development of the child is in truth only secondary to the prime work of the local education authority except in so far as the existence of these minor defects interferes with school attendance. Treatment of these conditions may in fact be regarded as a matter of educational expediency and palliative rather than one of preventive medicine in the stricter sense. The true remedy of much of this mass of minor ailments is to be found rather in the improvement of the general standard of environmental conditions, such as those of housing, and in a sounder training in the way of hygienic living, with greater opportunities for its practice.

The system of our National Health Insurance, although unlike some of the Continental systems it does not include the dependants of insured persons, has, however, favoured the development of a greater appreciation of the economic value of health, which has had an indirect influence upon the growth of the work in the School Clinics. This appreciation is shewn by an increasing desire on the part of the parents

for the supervision of the health of their children rather than for their treatment when they have become ailing or have developed some defect. The School Medical Service is becoming more and more a consultative organisation, and the fact that numbers of children are referred by general practitioners to the clinics for diagnosis and treatment, especially for ultra violet light irradiation, remedial exercises, or for an opinion as to the advisability of tonsilectomy, bears witness to the increasing co-operation with the family doctor.

At the same time, the economic effects of the prolonged depression are inducing many parents who in former years did not make use of the school medical organisation to seek advice at the Clinics. But amongst the many trivial ailments which throng the clinics, at any time there may be found a child suffering from some serious condition, and an alert eye has to be kept open lest amongst the crowd some major defect which is a menace to the child's life may be overlooked. Cases of acute appendicitis, osteomyelitis, nephritis, cerebral tumour, etc., are found from time to time. The result is an increasing pressure upon the Medical Officers, and the work in the School Clinics is in all respects similar to that of the out-patient departments of the Hospitals. The Table IV in the appendix of Minor Ailments thus treated, represents only a small fraction of the actual amount of work carried on in the Clinics.

The recent establishment in the City of a Public Medical Services scheme intended to supply to uninsured persons, and the dependants of insured persons, domiciliary and general treatment on lines comparable with those of the National Insurance system may possibly have its repercussions on the use made of the Clinics, by bringing into being a more direct relationship between those who hitherto have been outside any organised medical services and the family practitioner.

The ascertainment of physical defects and ailments amongst children of school age, in spite of the growing popularity and use of the School Clinics, has placed an increasing burden upon the voluntary Hospitals, which have continued in the main to supply the only alternative means of obtaining treatment. In the first place the basic purpose of the Voluntary Hospital system was the alleviation of the conditions of the *sick poor*, but with the ever more rapid advances in scientific knowledge and the growth of new concepts of destitution, which marked the last years of the administration of the late Poor Law, and culminated in the separation of the relief of sickness from that of poverty, an entirely new state of affairs has arisen. The Voluntary Hospitals are now no longer primarily charitable institutions, but rather institutions which provide such medical and surgical treatment as cannot, or only with difficulty, be obtained outside the walls of a Hospital. The subscribers' ticket which secured admission in the past has given place to the voucher of a contributory scheme. Hence it comes about that four distinct bodies, the Municipal Hospitals, the Voluntary Hospitals, the Infant Welfare Centres, and the School Clinics are making provision for the same type of client, and often for the same kind of defect without any effective co-operation or system. Under the haphazard system which has thus been evolved, it is not possible to determine how far these institutions cover the whole field without overlapping, or to determine where one responsibility ends and another begins. It is natural, therefore, that the Voluntary Hospitals, pressed to the limits of their financial resources, should begin to demur at the treatment of ailments of children for which provision may be made under the Education Acts. A free discussion

of the whole question by the various bodies concerned, and the formulation of a common policy is much to be desired. Progress in the next quarter century will more probably be in this direction towards a co-ordination and closer co-operation—a consolidation of the position already won, rather than the capture of new ground.

The House Governor of the Children's Hospital has supplied the following figures :—

Children admitted as In-patients	...	...	...	...	3,376
Out-patients	...	...	...	...	15,939
Ear and Throat Department	...	...	...	...	2,338
Dental Department	...	...	...	...	1,508
Day Wards...	...	...	...	...	3,454
Ophthalmic Department	...	...	...	...	566
Ultra Violet Ray Treatment	...	...	...	...	6,002

During the year there were also admitted 1,879 children between the ages of three and sixteen to Dudley Road Hospital, and 1,639 children to the hospital at Selly Oak.

Mr. Frank Mathews, the Hon. Secretary of the Birmingham Society for the Care of Invalid Children, reports that Haseley Hall has now been opened as a Hospital School for children suffering from Rheumatism and Chorea for 3½ years. Since then 112 children have been admitted and 75 discharged. Of these 30 are at work and doing well, 20 are still at School, 21 have been removed by their parents, 2 have been sent home because they proved unsuitable cases, 1 has relapsed and returned to Haseley and 1 has died. During this year only 4 have been withdrawn by their parents.

The Children's Country Holiday Society sent away a larger number of children than in any year since 1919, viz., 2,102 to the country, and 384 to the Hadley Home, Conway, for convalescence. This Society works in the closest touch with the School Medical Department, and the help which it gives in restoring the delicate and debilitated children within the limits of its financial resources is truly noteworthy.

The main features of the treatment accomplished by the School Medical Service may be gauged from the following summary :—

Tonsil and Adenoid Operations	.....	.....	.....	1,388
Minor Ailments Treated	.....	.....	.....	18,888
Children treated for Dental Defects	.....	.....	.....	40,867
Mastoid Operations at Selly Oak Hospital	.....	.....	.....	17
" Short Stay " Operations at Selly Oak Hospital	.....	.....	.....	23
Children treated by Ionization (for Otorrhoea)	.....	.....	.....	411
Refractions for Eye Defects	.....	.....	.....	3,691
X-Ray Treatment for Ringworm	.....	.....	.....	56
Ultra Violet Ray Treatment	.....	.....	.....	1,693
Examinations under Bye-Laws for Employment of Children	.....	.....	.....	1,945
Examinations for Theatrical Licenses	.....	.....	.....	14
Examinations for Intending Teachers	.....	.....	.....	133
Examinations of Boarded-out Children	.....	.....	.....	773

In addition I have examined for various purposes more than 250 members of the staff of the Education Committee.

The number of children on the register of Public Elementary Schools on December 22nd was 144,699, being 851 more than at the corresponding date in 1932.

ABSENCES FROM SCHOOL.

The number of children absent from school for periods over three months on medical grounds remains practically the same as in the previous year.

It will be seen from an analysis of the figures that again the largest amount of chronic invalidity is attributable to Rheumatism and its congener Chorea. This is also true of the children who are not on the register of any school (see below). The bed accommodation for the necessarily prolonged treatment of these children is much less than the demand, and these cases form a serious social and educational problem.

A Rheumatic Clinic with an electrocardiographic apparatus has been established at the Children's Hospital for some time past, and it is hoped that a close association between the Hospital and the School Medical Service will be arranged.

<i>Disease or Defect.</i>	1930.	1931.	1932.	1933.
Pulmonary Tuberculosis ...	4	2	3	3
Other Chest Conditions ...	24	23	20	18
Asthma	—	8	6	5
Eye Conditions	4	6	7	3
Ears, including Otitis ...	8	10	9	11
Skin Affections	8	18	8	10
Ringworm	4	2	—	4
Rheumatism and Heart ...	80	54	46	59
Chorea	47	34	33	29
Infectious Diseases	25	23	13	21
Mental and Epilepsy	10	9	6	9
Orthopaedic Defects	26	14	20	7
Nephritis	11	7	8	19
Tuberculous Disease				
Bones and Joints	14	10	8	2
Glands	—	6	2	1
Other Defects and Diseases ...	67	35	35	36
Totals	332	261	224	237

The number of children who are not on the register of any school is shewn in the following table.

Debility	15
Infectious Disease	19
Ear Conditions	5
Eye Conditions	4
Skin Conditions	9
Pulmonary Tuberculosis ...	10
Non-Pulmonary Tuberculosis	18
Other Chest Conditions ...	16
Crippling Defects	26
Chorea	12
Rheumatism and Heart Disease	30
Mental Deficiency and Epilepsy	65
Miscellaneous	45
Total	274

The numbers for the three previous years were (1930) 279; (1931) 174; (1932) 218.

The heading "Infectious Disease" is made up chiefly of children who at the time of reaching school age, are suffering from, or contacts with, Whooping Cough, or who are convalescents from this or some other form of infection.

ORTHOPAEDIC SCHEME.

The opening of the Remedial Clinic at Sparkhill and of the clinic at Handsworth for flat foot, have allowed a great expansion of this work, as will be seen by a comparison with the totals of figures for the previous year. Moreover, many cases of minor postural deformities, flat foot, etc., found during the inspections in the Secondary Schools are referred to the Physical Exercise Instructor at the School for special supervision and suitable exercises.

The actual work of the Clinics may be summarised as follows :—

<i>Defect.</i>	<i>Admitted.</i>	<i>Discharged.</i>
Spinal Curvature and Postural Deformity	296	161
General Muscular Debility	76	42
Various forms of Paralysis	31	18
Deformities of Feet	422	219
Chest Conditions, Asthma, etc.	132	40
Injuries to Limbs	19	16
Wry Neck, etc.	10	5
Total	986	501
Total for 1932	421	291

In addition, 869 children attended the remedial exercises Clinic for breathing exercises following the removal of Tonsils and Adenoids.

The number of children suffering from some form of physical handicap, exclusive of such conditions as Heart Disease, etc., who are in attendance at the Elementary Schools was found to be 382. These were classified as to causation :—

Tuberculosis of Bones or Joints	36
Osteomyelitis	5
Anterior Polio-myelitis	134
Other Forms of Paralysis	35
Accidents	47
Congenital Defects (excluding hip)	65
Rickets	10
Other Conditions	32
Congenital Dislocation of the hip	18
Total	382

The cases of congenital dislocation of the hip have been enumerated separately to bring out the remarkable sex-linkage with femaleness, there being 13 cases amongst girls as against 5 amongst boys. The nature of this sex-linkage is obscure.

The flat-foot classes held by Miss Illingworth at Handsworth Clinic have proved to be very successful and it is now possible to review certain features of the work.

123 cases of flat-foot have been admitted for treatment during the year, of these 48 have already been discharged cured, while 75 remain on the register. The average attendance per session was 74.

Dr. Kemp has carried out a special investigation into the subject of flat-foot, and the symptoms associated with the condition. He finds that of the 123 cases treated 95 per cent. had pain in the legs. Of these 20 per cent. suffered from Rheumatism, and received anti-rheumatic treatment in addition. A further 25 per cent had been previously considered as suffering from rheumatism, but were relieved of all pain after treatment had been carried out. Five per cent. only had no pain.

The causes to which this deformity may be traced are:—

- (1) Debility following acute illness, or a period of confinement to bed.
- (2) Muscular weakness associated with rapid growth.
- (3) Rheumatism.
- (4) Unsuitable shoes.
- (5) Injury to the foot, or the presence of corns, which cause the child to attempt to avoid pain, and ease the pressure by throwing the body weight on to the inner side of the foot.
- (6) Congenital shortening of the Tendo Achillis.

If treatment is begun at an early stage, much pain and physical disability in later life can be prevented, but it is very evident that flat-foot is often but an objective sign of some local condition or some general constitutional disturbance. The treatment should, therefore, be associated with the correction of a faulty regimen, or any departure from sound health. It is noteworthy that a number of the children have been sent up by family practitioners, or brought up by their parents. Amongst these cases were found three cases of Schlatter's Disease, and two cases of Pseudo-hypertrophic Muscular Dystrophy.

DENTAL TREATMENT.

During the year ended 31st December, 127,410 children were inspected by the School Dental Surgeons in the schools, compared with 113,148 in 1932. Of the children inspected 70 per cent. (89,481) were found to need treatment. As the percentage in the preceding year was 75.3 (83,352 children) there is ground for the belief that, generally speaking, the condition of the teeth of the children is improving. This belief is strengthened by an examination of the figures in the following table, which show that in each successive age group the proportion of children needing dental treatment decreases.

*Age Group.**Percentage of Children Needing Treatment.*

					1933.	1932.
5	...	...	...	...	75.9	81.5
6	...	...	...	...	73.2	80.1
7	...	...	...	...	73.7	79.0
8	...	...	...	...	73.0	79.0
9	...	...	...	...	72.0	77.8
10	...	...	...	...	69.2	73.4
11	...	...	...	...	66.8	71.0
12	...	...	...	...	64.2	69.2
13	...	...	...	...	66.4	69.0
14	...	...	...	...	64.4	73.8

The figures with regard to "individual children in need of treatment" are put forward with all reserve, because, it is almost impossible to ensure that children moving from one school to another as the result of the re-organisation of schools, or as a consequence of removal to a new housing estate, are not recorded more than once. It is, therefore, probable that to some extent this figure is inflated, and that as a result the percentage of children actually treated is understated.

The number of children who received attention through the School Dental Service was 40,867, or 45.7 per cent. of those noted for treatment. Whilst this is an increase of 1,181 in the *number* treated, it represents a decrease of 0.8 in the *percentage* of children treated. In all districts, with one exception, the percentage of children treated in 1933 is either much the same as, or slightly greater than, in 1932.

It is satisfactory to note that the number of children attending the clinic as "casuals" (i.e., without definite appointments) has again decreased. The figures for the last three years are 5,543, 1,810, 1,525.

It is not possible to estimate the number of children who, as the result of the dental inspection in the schools, received treatment at the hands of private dental practitioners, but it is probably true to say that some 4,000 to 5,000 children have received treatment in this way.

It may be hoped that the decrease in "casual" cases betokens a gradual improvement in the preservation of the permanent teeth as a very large proportion of those who seek fortuitous treatment at the clinics do so because of pain in unsaveable teeth, and also an increasing recognition of the importance of conservative treatment. The proportion of fillings to extractions of permanent teeth which has been suggested as an index of this improved attitude, and of the success of a conservative scheme, is misleading, certainly in regard to the figures for Birmingham. Many permanent teeth which are not the subject of caries are removed for orthodontic reasons, either because of overcrowding, in order to allow space for the eruption of the wisdom teeth, or in order to produce a symmetrical bite. Again there is a not inconsiderable number of incisor teeth which have been broken by a fall or accident for which the extraction of the remaining portion of the tooth is necessary. Further, speaking generally, multiple extractions of four or more unsaveable teeth are more often indicated than a comparable number of teeth to be filled. These factors materially raise the proportion

of extractions of permanent teeth in every hundred children treated at the clinics. Be this as it may the figures for the treatment of permanent teeth during the past two years have been :—

<i>Area.</i>				<i>Fillings per 100 children treated. (permanent teeth).</i>	<i>Extractions per 100 children treated (permanent teeth)</i>
Birmingham	1932	...	...	42.3	50.6
"	1933	...	...	45.9	53.6

The experiment of posting the notices to the parents with regard to the need for the dental treatment of their children, begun during the latter part of 1931 in the Aston area, and continued during 1932 and 1933, was extended to the Alcester Street District in April, 1933. The scheme has proved highly satisfactory thanks to the willing help of all the members of the Teaching Staffs.

The education of the whole population to a proper understanding of the great part played by dental disease in undermining health, and as a contributory cause of much ill-health and physical disablement must necessarily be a slow process. At the present time there is but little inducement, or indeed opportunity for those who have passed through their school life to give that care and attention to their teeth which they urgently need. Large numbers of children leave school to-day with their mouths made dentally sound, but the supervision and treatment supplied by the School Dental Service has no counterpart for the adolescent, and lack of opportunity for treatment soon leads to indifference and neglect. By the age of thirty-five or forty such teeth as remain are commonly merely foul and decaying stumps. If such persons are fortunate enough to obtain dental benefit through an Approved Society, this is practically always the replacement of the natural teeth by a denture. A remedy of this state of affairs is one of the more urgent social needs of the present day.

The research on the influence of diet in the development and arrest of dental decay has clearly proved that the more perfect the structure of the teeth the greater is the resistance to dental caries, and that the healthy structure of the teeth is in turn largely dependent upon the diet of the mother during pregnancy, and that of the infant in the formative period of its early years. This does not mean that habits of oral hygiene and cleanliness do not play an important part in the preservation of the teeth and of good health.

The results of Mrs. Mellanby's research which was carried out at the Cottage Homes are summarised in the final report of the Medical Research Council as follows :—

"In order to reduce substantially the incidence of dental disease, especially in temperate zones, it is necessary to introduce large changes in the diet and habits of pregnant and lactating women, of infants, and of children during the whole period of dental development, and, indeed, during the whole life. The consumption of milk, eggs, cheese, animal and fish fats, and vegetables must be greatly increased, and the consumption of cereals correspondingly diminished, and for the very young abolished. Breast-feeding must be general and prolonged even up to a year or more, provided a

supplementary diet is given after about six months, which should include some iron and vitamin C. Cod-liver Oil or some other source of fat-soluble vitamins should be given to all infants and children. "These then, are the general principles of feeding which will certainly result in the formation of more perfect teeth and surrounding tissues, more regularly arranged in well-grown jaws. With better structure of dental tissues and increased resistance to bacterial invasion there is every reason to believe that both dental caries and pyorrhoea will cease to be the scourge they are at the present time."

TONSILS AND ADENOIDS.

The number of operations performed at the Handsworth Clinic was 1,388, being nine less than in the previous year.

The whole question of the problem of the enlarged Tonsil and of Adenoid overgrowth, and the propriety of operative treatment as a general procedure is being much discussed, and there is a marked disposition towards a more conservative attitude in the matter.

The apparently large number of operations performed year by year at the Handsworth Clinic does not at first sight appear to indicate that conservative attitude which in reality for some years past has been the policy of the School Medical Staff, an attitude which has been reflected year by year in these Annual Reports.

Although the high prevalence of enlargement of the Tonsils and Adenoid growth seems to be accepted without question or anxiety, it is a matter which merits careful consideration and investigation. Throughout the country, thousands of children and young persons every year undergo an operation, not altogether devoid of risk, for the removal of tissues, which, when in a healthy condition, must have a definite part to play in the human economy. The problem which confronts us is the primary cause of the tonsillar enlargement. What is definite and clear is that repeated infection is an important, if not the chief cause of enlargement of the tonsillar tissue. The infection is not markedly influenced by social conditions nor by conditions of school attendance and the determining factors appear to be general in operation, and to be distributed throughout the community. Moreover, enlargement of the Tonsils and Adenoids in its present widespread prevalence seems to be a phenomenon of comparatively recent years.

Nasal discharge being a common symptom of sinus infection, its presence should always make one think of the possibility of this condition; if Tonsils and Adenoids appear to need removal the absence of infection of the antra should first be ascertained before giving a good prognosis as regards the cessation of nasal symptoms following the removal of Tonsils and Adenoids.

An investigation by a Bacteriologist into the nature of this bacillary infection which is productive of so much disaster, is urgently needed.

The real question at issue is the underlying and less evident cause of the enlargement of the Tonsils and Adenoids, and of which this enlargement is only the tangible and visible sign, the removal of which is alluringly easy.

In 1930 Mr. Gilhespy reported:—

“Since the institution of beds available at Selly Oak Hospital for the treatment of children with nasal symptoms, it has become evident to me that increasing numbers of such patients are being sent to Great Charles Street by the School Medical Officers. This emphasizes the need for such beds and the early recognition by the School Medical Officers of nasal sinus infection in young people. This early diagnosis must, in some cases, prevent the establishment of chronic nasal disease in adult life, a condition extremely hard to cure in many cases. The most common site of disease in children seen at the Clinic with symptoms of “nasal catarrh” to give the condition its popular name, is the maxillary antrum but we have seen cases of early involvement of the ethmoids. From histories of certain cases seen, this condition may be of very early origin.

It may be pointed out that most of these patients have residual infection in the nose, although the Tonsils and Adenoids have been removed—that is, established sinus infection forms a definite percentage of the school children requiring treatment. Further, in taking histories of children with nasopharyngeal infection it is interesting to note the association with recurrent attacks of bronchitis, bronchopneumonia and chest complaints.”

The following notes of two recent cases illustrate the point very well. H. L., aged 12½, chronic moist cough and frequent attacks of Asthma. Breathing laboured. Typical Asthmatic *facies*. Tonsils and Adenoids removed at a Hospital two years ago. X-ray photographs of the lungs revealed well marked loss of translucency and impaired air entry due to a progressive fibrosis and nasal emphyema. X-ray examination shewed an extensive infection of the ethmoid sinuses and antrum, i.e., a general nasal sinusitis. It is clear that the tonsillectomy, which was very well carried out, had only removed an obvious result of an insidiously progressive condition, of which the Asthma has also been a product with its resultant fibrotic changes in the lung tissue.

M. H., age 10. For a long time past has suffered from Asthma. The chest shape shews evidence of this chronic condition. Absent from school frequently for long periods. Both antra shew marked infective sinusitis. The Ethmoid sinuses shew similarly well-marked sinusitis, in fact the posterior sinuses are practically non-existent. Lungs give good evidence of peri-bronchial fibrosis with enlargement of the mediastinal glands. This child has not had operation for the removal of enlarged Tonsils and Adenoids, but it is clear that no such operation would have been of any real avail for the treatment of this general sinus infection.

It must be admitted that the detailed X-ray examination of all cases of Chronic Asthma, or of chronic nasal catarrh is not within the bounds of possibility at present, but cases of the type quoted raise points for the careful consideration of all who have to give advice on the ailments of children. These facts do not, of course, suggest that the removal of Tonsils and Adenoids is not a very valuable, important, and necessary form of treatment, though they indicate the importance of a careful and systematic examination of the whole naso-pharynx in estimating the advisability of operative treatment. Further, there is no stronger

argument for the introduction of open-air conditions into the planning and curriculum of Elementary Schools than the large number of cases of chronic nasal infections and enlarged Tonsils and Adenoids. All the recently built schools in the City provide admirable open-air facilities, and it is important that these facilities should be utilised to the fullest extent. Moreover, the organised games and physical exercises may be expected to exercise a profound influence in the same direction.

Dealing with 1933, Mr. Gilhespy writes :—

“In the period under review, the beds at Selly Oak Hospital have been made use of for the operative treatment of patients seen first at the Aural Clinic at Great Charles Street. Twenty mastoid operations have been performed on cases of old-standing otorrhoea in which non-operative treatment had been unsuccessful. For these patients, a complete Radical operation with enlargement of the external auditory meatus by plastic methods has been the operation of choice. In certain suitable cases a skin graft from the thigh has been used to epithelialize the cavity. After a good many years' experience of this work for the Education Committee, the Radical mastoid appears to yield the greatest number of dry ears compared with the results obtained by modifications of the Radical mastoid method. After-treatment is much shortened if a graft has been used.

These patients stay in hospital about a month, but immediately they are discharged their treatment is taken up at Great Charles Street, where they are kept under observation. It is very important at this period that the parents should be made to realise the importance of attending for treatment if a permanently dry ear is to be achieved. The unsuccessful results can, in our experience, nearly always be placed to the account of dilatory parents. I have stressed the importance of after-treatment in conjunction with any scheme of operative treatment in case other educational authorities contemplate a similar scheme to our own.

Our 'short cases'—those staying in hospital for a few days only—number twenty-three, and have mostly consisted of cases sent in for investigation of nasal discharge. In a number of these, the maxillary antrum on one, or both, sides has been found infected, but in quite an equal proportion antral infection has been negative, and the nose has later dried up with local treatment. I am not prepared at present to give an explanation of such cases, as many are still under observation.

Cases of well marked ethmoiditis with nasal polypi have been observed in school children; from careful history-taking it would appear that this disease may have started at a very early age. The value of X-rays—for which, fortunately, we have had greater provision made this year—is hard to evaluate in this condition in the young, but is of great help in nasal work generally and also in our mastoid cases.

A great deal of attention is being paid by many authorities to the partially deaf, and these cases are being found by the School Medical Service in increasing numbers. Many such children after treatment are found to hear only moderately well, and as they are not deaf enough to be certified for a Deaf School, are placed in the front row of their class

at school, where they have to do their best in the way of hearing their instruction. There is, in my opinion, great need for the teaching of such children in classes for the partially deaf. They should not be mixed with severely deaf children, who, however carefully taught the oral method of lip-reading, do at times relapse into using manual signs to express themselves. This is brought up as an argument by parents to me at the present moment if I suggest sending a partially deaf child to a Deaf School; they feel that their child should not mix with such very deaf children. I feel that the problem of these partially deaf children must be faced by the Education Committee. During the last two years more and more cases of the partially deaf are being referred to me at Great Charles Street.'

RINGWORM.

The incidence of Ringworm has remained stationary for some years past, 121 cases having been discovered and (with few exceptions treated elsewhere) received treatment at one or other of the Clinics. Owing to the small number of children who now require examination with a view to X-ray treatment, Dr. Russell Green now visits the Clinic fortnightly instead of weekly.

SCABIES.

This form of infestation has shewn no diminution during the past year. 509 cases being reported, compared with 514 in 1932. Of these 445 received treatment at the School Clinics. As was pointed out in a previous report, the infestation is largely a familial one, all the children in the family, and not unusually the parents, being attacked. It is not easy to discover by enquiry from the parents if they themselves are also infested, and comparatively small numbers give affirmative answers. This is, however, an important matter, for it is of little avail to treat the children of school age if centres for re-infestation exist in the homes. The parasite is essentially an occupant of the skin, and it is probable that only in cases of gross infestation is the clothing a potent source of re-infestation. Personal contact between the members of the family is probably the main cause of the spread, for example, when several of the children share the same bed. The lack of washing facilities in the slum houses, and the poverty which denies the copious use of soap and hot water in other areas, are the contributory agencies in maintaining the present incidence of the trouble.

SPEECH TRAINING CLASSES.

The success of these classes which have been in existence for more than two years under Miss Rosser, is now established beyond doubt, and their increasing value is recognised by all those who are brought into contact with stammering children, whether Medical Officers, Teachers, or Parents.

At first almost all the applications for treatment came from the School Medical Service, but often now the request for admission comes from teachers and parents, and even from children themselves—usually after they have seen the progress made by those who have been attending a class.

It is also noticeable that there is an increasing demand for treatment for stammering for boys attending Secondary Schools, who are, apart from a few exceptional cases, ineligible for admission to these centres. By far the majority of those awaiting treatment are to be found in the Severn Street area (partly because up-to-date fewer sessions have been held at that centre, and partly because it serves a more thickly populated section of the City) and some adjustment of the time-table will be necessary to meet this situation.

Miss Rosser reports that the organisation of the centres and the method of treatment has not been altered in any fundamental way, but as far as possible, the number in the several classes has been slightly reduced, and more individual treatment given to supplement the group work. Moreover, as time goes on, more psychological and sociological work becomes necessary. There is a greatly increased amount of after-care work to be done both among those under 14 and those who have left school. In the former cases, it is being found useful to encourage an occasional voluntary and informal visit to the centre after discharge to report progress. For those who have left school, the experiment of a fortnightly evening meeting, which may in time develop into a club, in order to keep closer contact with these ex-pupils, is now being tried. So far the only evening on which a room is available in a central locality does not seem very popular, and the inevitable distance between the home and the City prevents many more from attending after their day's work. However, those who have attended seemed to enjoy the opportunity of meeting and the scheme may yet prove successful.

In addition to the normal routine of the system (which now includes greater co-operation between the Speech Training Class and the Child Guidance Clinic, and all branches of the School Medical Service) during the Summer the help of the Children's Country Holiday Society was enlisted, and 17 children were sent away, with great benefit not only to physical but also to mental health; the temporary break from the home environment, with the accompanying increased sense of independence and self-reliance, was a definite aid to their speech progress.

The results of the work among stammerers are steadily improving. In a growing number of cases not only has a cure been achieved in the actual speech, but the memory of the emotional tone has been completely erased from the mind.

The results of after-care investigations on those who have left school are most satisfactory, especially when the difficulties of the initial year of the work are remembered.

On the whole those suffering from defects such as lalling and lisping have made better progress this year than formerly, partly perhaps because greater care is taken to include only those whose mentality seems likely to allow a reasonable measure of response to treatment. In connection with this branch of the speech training, the report of the investigation into the psychological factors involved is of considerable interest.

It may be noted that it is found that by far the greater majority of those who reach the standards of "Provisionally Cured" and "Much Improved" have attended for three or four school terms, i.e., between

12 and 16 months. Of those admitted in September, 1931, 29 continued to attend up to December, 1933, and 11 will continue, if only for a short period further, in 1934. At the end of July, 1933 their discharge seemed advisable as they were unlikely to improve further, but the decision to allow them to remain has, with one exception, been amply justified by their progress in the last three months, and they should now achieve a permanent cure.

There is still a long waiting list of children, for it is not possible for one specialist teacher to deal with all the cases and various forms of speech defects which are to be found in the child population of the City.

The accompanying analysis of the work of the classes has been made by Miss Rosser. All the cases reported are examined by her in conjunction with Dr. P. Kemp.

SPEECH TRAINING CLASSES.

				Boys.	Girls.	Total.
Number on Register 1/1/33.						
Stammerers	...	...	...	62	15	77
Other Defects	...	...	...	11	10	21
				73	25	98

Number interviewed 1/1/33—1/1/34.						
Stammerers	...	...	...	48	7	55
Other Defects	...	...	...	14	5	19
				62	12	74

Number Admitted 1/1/33—1/1/34.						
Stammerers	...	...	...	41*	7	48
Other Defects	...	...	...	7†	4	11
				48	11	59

* Including two re-admissions at child's own request.

† Including one re-admission.

Number Discharged 1/1/33—1/1/34.						
Stammerers	...	...	...	39*	10†	49
Other Defects	...	...	...	12	10‡	22
				51	20	71

* Including 9 who have left school and 3 who continued to attend the Child Guidance Clinic.

† Including 3 who have left school.

‡ Including 1 who has left school.

These children were discharged under the following classifications :

	<i>Stammerers.</i>		<i>Other Defects.</i>		<i>Total.</i>
	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	
Provisionally Cured ...	21 ^a	4	6	3	34
Much Improved ...	9 ^b	4 ^c	2	5	20
Slightly Improved ...	9 ^d	1	4 ^e	1	15
Not improved or Un- suitable for further treatment ...		1 ^f		1	2
	39	10	12	10	71

^a Of these 4 have left school.

^b Of these 2 have left school, 2 have left the district, and 1 is attending the Child Guidance Clinic, and one has been transferred to an Open-Air School.

^c Of these 2 have left school.

^d Of these 5 have left school, 2 are attending the Child Guidance Clinic, and 1 was withdrawn by his parents.

^e Of these 2 have been transferred to a school for Mentally Defective Children.

^f This girl was withdrawn by her parents.

AFTER-CARE REPORTS

A. Reports available on Children still attending school may be summarised thus :—

Cured ...	...	...	...	...	...	...	12
Provisionally Cured or " Almost " Cured	...	...	...	...	...	...	6
Much Improved ...	...	...	...	...	...	...	23
Slightly Improved...	...	...	...	...	...	...	15
Not Improved ...	...	...	...	...	...	...	1
							<u>57</u>
Slightly relapsed since discharge	...	...	...	...	...	...	3*
Considerably relapsed	...	...	...	...	...	...	6
Considerably improved	...	...	...	...	...	...	2

* 2 of these were re-admitted and 1 has regained the " Provisionally Cured " standard.

B. Reports available on children who have left school at least a year may be summarised as follows :—

Cured ...	...	...	...	...	...	...	4
Provisionally Cured	...	...	...	...	...	...	7
Very much improved	...	...	...	...	...	...	9
Slightly improved	...	...	...	...	...	...	3
Not improved ...	...	...	...	...	...	...	1
							<u>24</u>

Summary of occupation of the above 24.

Factory Workers ...	...	...	...	...	...	...	10
Warehouse Workers	...	...	...	...	...	...	2
Assistant in Small Shop	...	...	...	...	...	...	1
Cash Desk Assistant	...	...	...	...	...	...	1
Window Cleaner ...	...	...	...	...	...	...	1
Indoor Worker in Dairy	...	...	...	...	...	...	1
Outdoor Dairy Worker (<i>i.e.</i> , on Milk Round)	...	...	...	...	...	...	1
Errand Boys ...	...	...	...	...	...	...	3
Learning Trades :							
Tool Making ...	...	...	...	...	...	...	1
Cabinet Making	...	...	...	...	...	...	1
Ironmongery ...	...	...	...	...	...	...	1
Messenger Boy in Engineering Office	...	...	...	...	...	...	1

Only 3 of the above report difficulty in obtaining employment on account of their speech, although several of those whose speech is still defective are unable to get certain types of work by reason of this handicap.

Number of Children recommended to the Child Guidance Clinic.

				Boys	Girls	Total
Stammerers	...	...	...	7	—	7
Other Defects	...	...	...	—	1	1
				7	1	8

Number of Children recommended for Intelligence Test.

Stammerers	...	...	...	5	—	5
Other Defects	...	...	...	2	1	3
				7	1	8

Number certified as requiring treatment and awaiting admission to a class, at the beginning of the present year ...

49

Number awaiting an interview, ditto ...

70

INVESTIGATION.

An investigation has been carried out by Dr. Kemp in connection with these classes to determine whether any relationship exists between minor malformations and irregularities of the mouth and pharynx, and such speech defects as lisping, lalling, delayed speech, extreme nasality of voice, etc. Twenty-four children suffering from this type of speech defect were examined, together with 16 stammerers. Forty-four children without speech defect were examined as controls. The conclusion to be drawn from the results is that while minor abnormalities of the mouth are very common (abnormally high palate) irregular bite of the jaws, etc.), these have no definite relationship to defective speech.

In addition to the speech training classes under Miss Rosser, the classes carried on by Miss Parsons at the Children's Hospital continue their useful work. In the main these classes are intended for the training of children suffering from cleft palate or harelip. At the beginning of the year there were 23 such children in attendance from the Elementary Schools of the City.

SECONDARY SCHOOLS.

In the Secondary Schools every pupil is seen by the Assistant School Medical Officer every year. Their average health and physique is very good.

Although dental defects still loom unduly large, there is a very real improvement in the condition of the mouths. Though the reduction in the number of pupils found to require dental treatment in the last year (9 per cent) compared with 1933 (10.38) may be accidental, there is very clear general evidence of a greater care of the teeth, and it is now rare to find a case of extensive caries.

For the rest, defects of vision are the chief defects which call for immediate treatment.

In January, 1922, the Hygiene Sub-Committee resolved, until such time as it was decided to exercise in a general way the Local Authority's powers in respect of medical treatment, to give to the School Medical Officer discretion to enable him to arrange (within the powers possessed by the Committee) for dental and medical treatment in special cases where, after investigation, he was satisfied that treatment through other sources was not available, and a record of the cases so treated has been submitted to the Sub-Committee at intervals of approximately six months. During the twelve months ended 12th September, 1933, the number of children and young persons who received treatment for dental defects was 34, and 33 were provided with spectacles. In the report for 1933 it was pointed out that the pupils in Secondary Schools were placed at some disadvantage, as compared with their fellows in the Elementary Schools, in the attempt to obtain treatment for defective teeth or eyes, a disadvantage which has been thrown into stronger relief by the increased number of children in attendance, and the prolonged financial depression. During the past year the matter has received careful consideration, and as a result the opportunities for treatment of these conditions at the school clinic have been extended to Secondary School pupils.

NURSERY SCHOOLS.

No additions to the Nursery School accommodation have been made during the past year, though plans are under consideration for future developments, if and when circumstances permit.

Tiverton Road (accommodation 60).

Dr. Alexander reports :

"The enlarged playground with a dry surface will give more scope for constant exercise and play in the open air. There have been only a few days in the year when the folding doors of the Nurseries have had to be closed on account of frost or fog. In the Summer term 50 of the children were fitted up with sun suits, and this greater freedom and exposure to the sun has been appreciated by the parents, and has resulted in greater freedom from colds in the Autumn term.

The dinners continue to be beneficial to the children and appreciated by the mothers, many of whom are unable to provide a hot mid-day meal at home. The payments made by the parents have covered the cost of the two course meal, cod liver oil, and early morning milk.

Illness. Health has been good except for two epidemics of Measles and Whooping Cough. Although several children were very ill, and there were two cases of Pneumonia, they have all made good recovery.

Clinical Attention. There is splendid co-operation both at the School Clinic and the Child Welfare Centre.

Dental Treatment has been carried out in every instance where it has been advised.

Summer Lane. Accommodation 74. Number on Register 83. The average attendance has been 73.

The provision of the mid-day meal and the daily dose of Cod Liver Oil have had a very marked influence upon the children, which after a few weeks is recognised by the mothers themselves, and most of the children shew a steady gain in weight. The school has been fortunate in the freedom from infectious disease.

Dartmouth Street Nursery Class. Accommodation 32. Number on Register 36. Average attendance 30. The general health of the children has been good. Dr. Payton reports that 20 were found to be undernourished, of these 17 have increased steadily in weight, a result which she attributes to the daily Cod Liver Oil and Milk which most of the children obtain. There have been five cases of Whooping Cough and four of Chickenpox, and one only of Measles.

The comparative freedom from infectious disease, remarked upon above, is noteworthy, for one of the arguments against the extension of Nursery Schools has been that the aggregation together of children of tender age will tend to the dissemination of infections amongst them, as most of them will be susceptible. As the danger to life of such infections as Measles and Whooping Cough may be said roughly to vary inversely with the age of the children at risk, it is considered that the longer the attack can be deferred, the better will be the prognosis when the child falls a victim. Throughout their existence, however, the Nursery Schools have been surprisingly free from epidemic disease. This freedom may, to some extent, be claimed to be due to the careful watch kept upon the children by the school nurse and teaching staff, whereby early cases are noted before they have had much opportunity for dissemination of the infection, and the healthy open-air conditions with good food and cleanliness under which they pass their time in the schools.

CAMP SCHOOLS.

The exceptional amount of sunshine and open-air weather which will make the year 1933 a memorable one, gave an added value to a stay at the Camp Schools and the health of the children was uniformly good.

		<i>Headington Oxford (Boys)</i>	<i>Bell Heath (Boys).</i>	<i>Blackwell (Girls).</i>
Accommodation	.....	40	100	60
No. of weeks open	.....	37	40	36
No. of children sent	.....	466	1,073	962
No. of Schools sending children	.....	12	32	33

COTTAGE HOMES.

The policy of boarding-out the children who become the wards of the Local Authority, rather than retaining them throughout their school life and early adolescence in the Cottage Homes, which has been followed for the last few years, has resulted in a decrease in the accommodation required. Accordingly, Marston Green, which was one of the first

institutions of its type on its opening in 1879, was closed down at the end of March, 1933, and its inmates transferred to one or other of the two similar Institutions.

The general health of the children has been very good and there has been little epidemic disease. This is all the more fortunate as, owing to the fact that as the elder children attend Elementary Schools in the district, and at Shenley Fields large numbers of children from the neighbouring Weoley Castle Housing area attend the school within the grounds, these Homes are no longer closed institutions. The chances of the introduction of infections are, therefore very largely increased. In this connection there is another feature of epidemiological interest which is likely to shew itself, of which there seem some indications already, due to the more rapid "turnover" of the child population resulting from the new orientation of policy. The average age of the child inmates is less than under the old system, for example, at Shenley Fields at the time of writing (5th February, 1934) there are 82 children over 8 and 76 under that age. Speaking generally, younger children are more likely to be susceptible to infections of all kinds. As Professor Topley has shewn in his work on artificially produced epidemics, "the intensity of an epidemic bears a definite relation to the rate of fresh exposures, and the movement of susceptible but uninfected individuals in the community is one of the main factors in determining the course of the epidemic spread of bacterial disease." A closed community becomes "salted" to the different minor infections, e.g., tonsillitis, catarrhal colds, etc., transmitted from one to another member, and the average incidence remains low. But the introduction of new susceptible and "unsalted" members upsets this epidemic balance and tends to the spread of infections even amongst those who have been inmates for longer periods.

Another side-issue from the boarding-out policy is that there is a natural tendency for the brighter and more intelligent children to be boarded-out, rather than the slower witted, with the result that there is likely to be a gradually increasing number of children of the lower ranges of intellectual capacity. In this connection there are other factors which combine to increase the number of children of poor mental shewing in the Homes. The first is that of Heredity. Many of the inmates are the children of parents whose vagrancy, unemployability, or habits of life have been the visible signs of their lack of mental power to meet the demands made by their environment, and have made them the flotsam and jetsam of society. But the second factor is at least of equal importance, and probably is greater, i.e., the emotional damage from which the child has suffered as a result of those conditions which have brought him under the care and tutelage of the local authority. The death of a parent, the break-up of a home, and the being thrown "from pillar to post" to the care of relatives, the over-crowded lodgings and fraying of tempers which comes therefrom, cruel treatment and all the malign influences of misfortune tend to produce an emotional instability which needs years for a stabilisation adequate for the requirements of our complex life. These emotional disturbances and handicaps cannot fail to act unfavourably on the intellectual output as measured by mental tests and school work, and not infrequently such children who are regarded by their teachers as lacking in intelligence are only bewildered or disheartened. Doubtless the healthy environment of an Institution with its quiet regulated life and its simple demands, does much for

many children towards a re-orientation of their outlook, *pari passu* with the improvement of their bodily health, but for most of them nothing can take the place of a normal home-life with affectionate and kindly parents who will supply that intimate and loving contact for which every child craves. For the foster-parents it is no easy task, for many of the children shew evidence of their instability by all kinds of difficult behaviour and disorders, when after a period of institutional life, they find themselves in the more intricate mazes of family life with its manifold contacts with the world outside. The patience and attention given by the foster-parents are one of the most striking incidents of the work of boarding-out. Some 520 children varying from infants to working boys and girls of 15 or 16 years of age are now boarded-out by the Birmingham Education Committee, and I have had the opportunity of examining most of them at least twice, and many of them more often, each year during the last three years.

It is particularly noticeable that the children who have suffered for long periods from enuresis have in very large number of instances been completely cured from this disability which is so distressing to themselves. Not infrequently there is a temporary appearance or recrudescence of the trouble in children when they first leave the Homes, but it disappears when the newness of their surroundings has passed away. As to the comparative advantages of boarding-out in town or country, it is too early to draw conclusions, but there are two points which are in favour of the country. Firstly, a number of children who appeared to be almost on the borderland of feeble-mindedness, who were sent to the country, have not only improved enormously in their mental stability, but have been quite able to take their place in the village school where they are living. There are, of course, other children whose educational progress might have been retarded through lack of the more varied resources of the City, but it is noteworthy that of the 156 children placed in the country, many from broken homes, or whose lives hitherto have not lain in pleasant places, not one has proved unsatisfactory. Secondly, apart from the more abundant sunshine unobscured by smoke, the opportunity for using the eyes over a wide stretch of country, which the city child whose vision is never extended beyond the end of the street cannot obtain, is in my experience a valuable factor in the maintenance of good sight.

The investigation carried out at the Cottage Homes by Mrs. Mellanby, under the auspices of the Medical Research Council, into the influence of vitamin D. on the structure of the teeth has come to an end. The final report of this investigation has now been issued* These shew that the inclusion in the diet of a rich source of vitamin D retards the initiation and spread, and encourages the arrest, of dental caries. (See page 14).

* Diet and the Teeth, Part III. May Mellanby. Medical Research Council, H.M. Stationery Office, 1934.

IMMUNISATION AGAINST DIPHTHERIA.

The number of cases of Diphtheria and of deaths therefrom has shewn a still further reduction, and has been the lowest on record. The campaign for the immunisation of the child population has continued to be carried on with energy, and the elementary schools are now being visited a second time. It is a legitimate inference that the remarkable reduction in the deaths from this infection is the direct result of this contemporaneous campaign.

It has been argued that, in order to make certain that complete immunity has been conferred, a Schick test should be applied after the inoculations. Apart from the fact that there are certain anomalies in the resulting reading of this test, the object of the campaign is to secure within as short a period as possible a high degree of mass immunity amongst the child population. The necessity of still another injection to prove the efficacy of the three immunising doses would materially lengthen the time required for each school. Moreover the rationale of the process would be difficult to explain to the parents, who in such large numbers have taken advantage of the opportunity to defend their children against an infection which has in times past been one of the chief menaces to child life in the City. The total number of children who have received immunisation treatment is now about 60,000. During the past year the actual number of children thus treated was 13,000.

EPILEPTIC REGISTER.

There are in attendance at Elementary Schools 96 boys and 56 girls who have been reported to have been the subjects of epileptiform attacks. These names are kept on a special register. The children are kept under continuous observation with repeated special re-examinations. This scheme enables the children to continue to attend school with manifest advantage to themselves, and a surveillance of the frequency of the attacks, the necessary treatment, and also a valuable co-operation with the Juvenile Employment and Welfare Department in the choice of suitable employment and in following their progress.

ULTRA VIOLET LIGHT TREATMENT.

Every Clinic is now equipped with a Mercury Vapour Lamp. It has, therefore, been possible to increase the number of children who have received treatment. Including the 257 children who were carried over from the previous year, and 347 whose treatment was begun in 1933 and carried forward into 1934, there have been 1,818 children under radiation treatment. The aggregate results from all the Clinics give the following percentage :—

<i>Cured or very much improved.</i>	<i>Improved.</i>	<i>No change.</i>
27%	60.5%	12.6%

These figures are misleading in that apart from the question of the personal equation amongst different observers, both in the choice of subjects to be treated and the criteria of the results, it is quite impossible in dealing with such conditions as Asthma, Debility, Bronchitis, etc., to draw any definite line between the groups headed "cured" and "improved."

Dr. Wilkins has made the accompanying study of the cases which he himself has treated at Sheep Street.

“Out of a total of 234 children treated by ultra-violet radiation at my Clinic I am able to report on the results in 166 whom I have personally followed up. Many of the remainder attended for too short a time for definite results to be obtained.

	<i>Number Treated.</i>	<i>Cured or much Improved.</i>	<i>Improved.</i>	<i>No better.</i>
Debility	46	18	22	6
Rheumatism	40	9	26	5
Chorea	1	—	1	—
Bronchitis and Asthma	19	8	7	4
Nasal Catarrh, etc. ...	20	6	13	1
Enlarged Glands ...	1	—	1	—
Otorrhoea and Deafness	3	1	1	1
Blepharitis and Conjunctivitis ...	8	6	1	1
Vomiting	7	5	2	—
Chilblains	3	1	1	1
Alopecia	4	1	1	2
Impetigo	12	6	6	—
Other Skin Trouble ...	2	1	—	1
Total ...	166	62(37.3%)	82(49.4%)	22(13.3%)

The majority of cases of general debility are greatly benefited, showing as a rule improvement in appetite, sleep, activity and general spirits.

For rheumatic children, apart from residential treatment at such establishments as the Baskerville Special School and Haseley Hall, ultra violet radiation seems to be the main therapeutic measure. The results are consistent with those obtained in previous years. Only 5 out of the 40 cases treated did not improve. Some children remain free from symptoms for long periods after radiation has been stopped; others relapse quickly, and many of these return for further courses of treatment. In some there is all-round improvement; in others rheumatic pains continue while the accompanying debility is greatly benefited. In classifying the results of treatment all the symptoms, the debility as well as the definitely rheumatic complaints, have been taken into account. Those selected for radiation do not, of course, include cases of acute rheumatic fever, but rheumatic children suffering from re-current feverish attacks of a less serious nature *are* included. It seems that, provided the child is well enough to attend at the clinic, ultra-violet radiation is likely to be of benefit. Only one case of pure chorea was treated this year. Of the 26 rheumatic children in the improved column 3 suffered in addition from some choreic symptoms.

Re-current attacks of bronchitis are often greatly reduced in frequency, some children remaining free from attacks for long periods. In general there is less improvement in a definitely chronic bronchial

catarrh; cough may be much less but local crepitations and general rhonchi do not always disappear from the lungs. Good results continue to be obtained in children with asthma.

The next group includes in the main two types: (a) frequent colds, and (b) chronic nasal catarrhs. Amongst the latter are included some cases referred back by Mr. Gilhespy, either as not requiring surgical treatment or as supplementary thereto. Of the whole group—frequent colds and chronic nasal catarrhs—only one did not show a very definite improvement, a child who required tonsilectomy which was carried out later with benefit. Light treatment has not been given as an alternative to surgical treatment but rather in cases in which there was reason to think that the trouble was due to a lowered state of general health. One of the cured cases was a girl recommended to the Clinic for radiation for an almost persistent feverishness for over 3 months associated with tonsillitis; the trouble cleared up entirely soon after beginning radiation.

Only two cases of otorrhoea were treated this year, but I feel sure that U.V.R. would be a great help and shorten the periods of attendance at the clinic if there were facilities for the radiation of all cases of otorrhoea.

For obstinate phlyctenular conjunctivities ultra violet treatment appears to be an almost infallible standby, and the same may be said in reference to troublesome impetigo.

An interesting group is that of children suffering from repeated vomiting or bilious attacks. As in previous years, radiation appears to be effective in most of these, either in completely stopping, or greatly reducing the frequency of the attacks."

These results, which are consistent with those given by the other School Medical Officers, and with those of previous reports, afford eloquent proof of the assertion that in ultra violet radiation we have one of the most valuable remedial agencies for children whose general health has fallen below par—a value which cannot always be expressed by figures. It can best be gauged by the unanimity with which the parents express their appreciation of the improvement which they recognise, and by the number of parents who seek this treatment for their children. It is unfortunate that the demand for treatment of debilitated children exceeds the capacity of the clinics to give it, because ultra violet radiation must be fitted into the general organisation of minor ailment treatment. For the greater part of the week the lamps there remain unused. This difficulty is likely to increase as the numbers of children attending the clinics for examination or minor ailment grows greater, as appears to be the case.

EYE DEFECTS.

The number of children shewing defects of vision who were examined at the clinics was 3,703, while spectacles were prescribed for 3,413, and 377 received spectacles from other sources.

The reduction in the number of children for whom a part-sighted curriculum was found to be necessary, mentioned below by Mr. Archer Hall, is very satisfactory, though the cause for this reduction is obscure.

Mr. Archer Hall, Ophthalmic Surgeon to the Education Committee, reports :—

“During the year ending December 31st, 1933, seven hundred and fifty children attended my Sessions at the Great Charles Street Clinic.

For four hundred and eighty seven of these patients, spectacles were prescribed, and the following errors of refraction were corrected in these children.

Hypermetropia	...	...	...	...	...	...	...	155
Hypermetropic Astigmatism	...	...	...	...	...	...	...	214
Myopia	...	...	...	...	...	...	...	49
Myopic Astigmatism...	...	...	...	...	...	...	...	58
Mixed Astigmatism	...	...	...	...	...	...	...	10

It was found that Part-sighted education was necessary in fifteen cases, and this was recommended. This figure is much less than the numbers of a few years ago, when, in one year, forty children were considered unfit for ordinary sighted school.

Six children were certified as blind for admission to the Blind Institution at Edgbaston. These were infants of nearly five years of age, who had not attended any school. They were almost all cases of congenital blindness. This number is an increase over the cases of previous years.

Thirteen children were referred to the Birmingham and Midland Eye Hospital for treatment under my care, and, as in former years, a large number of children were operated on by me for the cure of strabismus, at the Hospital.

Further advantage has been taken of the Fusion-training department of the Eye Hospital, which is now much increased in personnel and in instrumentation. Ten cases have been treated there.”

In addition to the above Dr. Aldridge has prescribed glasses for the following errors of refraction :—

Hypermetropia	...	...	...	...	...	...	...	261
Hypermetropic Astigmatism	...	...	...	...	...	...	...	201
Myopia	...	...	...	...	...	...	...	54
Myopic Astigmatism	...	...	...	...	...	...	...	82
Mixed Astigmatism	...	...	...	...	...	...	...	14

PARTIALLY-SIGHTED CHILDREN.

During the year Mr. Archer Hall has carried out, at the suggestion of the Board of Education, an enquiry into the after histories of children who have been educated at the Partially-sighted schools on account of a high degree of myopia. The prime object of the enquiry was to obtain information as to the influence on the progress of the eye defect (a) by attendance at a Partially Sighted School, compared with similar cases from neighbouring areas where no such special curricula exist, and (b) the influence of employment in industry on leaving school.

For this purpose only uncomplicated cases of myopia (i.e., with no other ophthalmic condition present not directly due to the myopia) of at least six dioptries were examined, and only those who had left school for three years or more.

Mr. Archer Hall reports:—

“Nearly a hundred patients were examined and reported upon, and half of these were ex-pupils of the Part-sighted Schools of Birmingham. The remainder were from the neighbouring Boroughs of Wolverhampton, Smethwick, West Bromwich, and Walsall.

In a city of a million inhabitants, such as Birmingham, it was to be expected that a relatively large number of cases of myopia of a serious and progressive type, would be present in those who had received Part-sighted Education, in comparing the Birmingham myopes with those educated in sighted schools of the neighbouring boroughs. This was found to be the case, also that the earlier incidence of the disease was quite marked in the Part-sighted cases, where it was found that at the average age of $8\frac{1}{2}$ years, 9.2 dioptries of myopia had already developed. In the Wolverhampton patients, of whom there were 25 (the next largest number to Birmingham) at the time for which records were available, 7.7 dioptries were present in children whose average age was 11 years.

This different age grouping, and the extent of the myopia is of paramount importance, because it is generally accepted that with very much earlier incidence, myopia is in itself, more serious, and also has obviously more years in which progression may take place.

By 1933, the Wolverhampton cases had progressed, 3.6 dioptries, and the Birmingham cases 4.1 dioptries, but in view of the earlier start of the myopia in the Birmingham patients, the period of observation, was $2\frac{1}{2}$ years longer. Bearing this in mind, and also the much more serious nature of the disease in these latter cases, I am of opinion that satisfactory results have been obtained by the Part-sighted type of education.

It is also very gratifying to find such a small percentage of unemployment in all cases of high myopia, particularly in view of the fact that the first part of 1933, when the investigation was carried out, was a period of very marked industrial depression.

VERMINOUS CHILDREN.

The campaign against verminous infestation has been carried on with vigour, and a total of just under 446,900 individual examinations was made by the School Nurses, in the course of which there were 15,143 children found to be infested. The strengthening of the staff by an additional nurse at the beginning of the year has resulted in an increase in the number of sessions devoted to the examination of the children in the schools, and the number of visits to each school has risen from an average of 9.5 visits per annum to 12.8. This has meant an increase of some 66,000 in the number of examinations, with the consequent, and not unexpected result of an increase in the number of children found to be unclean. The condition is largely kept up by a small number of constantly verminous children. These children are the foci of infection, but their victims will vary each time the nurse visits the school. It is these children who are thus temporarily, and so to speak accidentally, infested who go to swell the number recorded as unclean.

Hence the number of individual children found unclean is likely to be greater the more frequently the schools are visited, for as their parents are anxious to keep them free from infection, their infestation is usually short-lived, and is more likely to escape the notice of the nurse when the intervals between the examinations are more prolonged.

How much improved is the real state of affairs may be gathered by a comparison of the number of "instances of uncleanliness" (as distinct from "individual children") with the "number of examinations." In 1932 (using round figures) of 380,000 examinations 63,000 (16.5 per cent.) revealed a condition of uncleanliness, whereas in 1933 of 447,000 examinations only 61,000 (13.6 per cent.) showed the presence of nits or vermin. Judged from this standard, therefore, there has been a definite improvement in the condition of cleanliness in the schools during the last twelve months. Furthermore, the degree of infestation is less than hitherto, and the number of parents prosecuted is less than in any of the last 15 years.

It is now intended to concentrate upon the small foci of unclean children with a view to the elimination of this source of infestation.

During the year legal proceedings were taken under the School Attendance Bye-Laws in 58 instances.

PHYSICAL TRAINING.

The following report has been supplied by Mr. MacCuaig and Miss Thorpe, Organising Inspectors of Physical Training :—

"Since the last report, the important and far-reaching developments mentioned therein have been continued further.

In the senior schools there are now over 300 teachers who have been trained intensively to conduct the advanced form of gymnastic training involving the use of apparatus. 90 per cent. of the senior departments have been equipped with the necessary apparatus, the remaining 10 per cent. being without suitable accommodation at the present time.

The scheme has been particularly well received by teachers, scholars and parents. The attractiveness of the scheme is indicated by the frequency with which gymnastic demonstrations figure in programmes arranged for Parents and Open Days. These occasions have formed excellent opportunities of showing parents the health value of the school physical training and also the need for suitable gymnastic costume. The value of parents' co-operation cannot, of course be over-estimated.

Training Courses for teachers in Infant, Junior, Senior and Special Schools have been held during the year. These courses have included Physical Exercises, Games and Swimming. In October, 1933, the Board of Education issued a new Syllabus of Physical Training for Infant and Junior Schools to replace the 1919 Syllabus and many courses based on this new Syllabus have been arranged for teachers.

Good progress continues to be made in providing facilities for organised games for Elementary Schools. Since the last report, four new playing fields have been opened and are attended by over 4,500 children. This brings the weekly total of Elementary School children attending the Committee's own playing fields for organised games to 44,500. A further 10,000 children attend grounds other than those owned by the Committee. Twenty-three playing fields, owned or rented exclusively for the use of children attending Elementary Schools, are now in use."

TUBERCULOSIS.

Dr. Dixon, Chief Tuberculosis Officer, has forwarded the following report :—

During the year 1933, the number of children dealt with at Yardley Green Road Sanatorium was 204. Of these 110 were males and 94 were females.

Out of the 204 there were 130 who were admitted primarily for observation, 92 of which were discharged with no definite signs of Tuberculosis, and 38 remained for treatment.

Of the 112 who received treatment, 48 were in Group I, 24 in Group II, 9 were in Group III, and 31 were in Group IV, i.e., 31 were non-pulmonary cases. The non-pulmonary cases consisted of tuberculosis of the bones and joints, abdominal tuberculosis, peripheral glands, etc., and the majority of these children were treated in the artificial light clinic with excellent results.

Classification of Groups.

Group I.—Cases with slight constitutional disturbance, if any; e.g., there should not be marked acceleration of pulse nor elevation of temperature except of very transient duration; gastro-intestinal disturbance or emaciation, if present, should not be excessive.

The obvious physical signs should be of very limited extent as follows: Either present in one lobe only, and, in the case of an apical lesion of one upper lobe, not extending below the second rib in front or not exceeding an equivalent area in any one lobe; or where these physical signs are present in more than one lobe, they should be limited to the apices of the upper lobes, and should not extend below the clavicle and the spine of the scapula. No complication (tuberculous or other) of prognostic gravity should be present. A small area of dry pleurisy should not exclude a case from this group.

Group III.—Cases with profound systemic disturbance or constitutional deterioration, with marked impairment of function, either local or general, and with little or no prospect of recovery. All cases with grave complications (e.g., diabetes, tuberculosis of intestine, etc.), whether those complications are tuberculous or not, should be classified in this Group.

Group II.—All cases which cannot be placed in Groups I and III.

Group IV.—Patients suffering from non-pulmonary tuberculosis include :—

- (1) Tuberculosis of bones and joints.
- (2) Abdominal tuberculosis (i.e., tuberculosis of peritoneum, intestines or mesenteric glands).
- (3) Tuberculosis of other organs.
- (4) Tuberculosis of peripheral glands.

TUBERCULOSIS. (NOTIFICATIONS).
(ALL FORMS). 1933.

AGES.	RESPIRATORY SYSTEM.		NERVOUS SYSEM.		INTESTINES AND PERITONEUM.		OTHER FORMS.	
	Cases Notified	Deaths	Cases Notified	Deaths	Cases Notified	Deaths	Cases Notified	Deaths
0+	4	4	3	5	1	—	2	5
1+	4	—	4	6	—	1	9	4
2+	23	3	10	15	1	—	20	6
5-15	80	8	13	14	5	1	55	9
Totals	111	15	30	40	7	2	86	24

CHILD GUIDANCE CLINIC. SHEEP STREET.

Dr. C. L. Burns, Director of the Child Guidance Clinic, submits the following report:—

“The Child Guidance Clinic has now been working for two years, and it becomes possible to estimate the general trend of its activities. The Staff consists of a part-time Medical Director (psychologist), a part-time Psychologist, and a full-time Pyschiatrist social worker. As regards the type of cases referred for treatment as well as the general method of its operations, it resembles the other Clinics which are now to be found in various towns in Great Britain, and as reports of these Clinics have recently appeared, it is, perhaps, of more interest to indicate those features whereby it is distinguished from these others. It is, of course, under the Education Committee, and the Director is directly responsible to a special Clinic Sub-Committee, while working also under the aegis of the School Medical Officer. The Director is at the same time in charge of the Special Schools of the City, while the Psychologist carries out the testing of children notified for mentally-defective schools. While the two branches of their work, namely the Child Guidance Clinic and the Special Schools are kept entirely distinct as regards administration, their dual activity makes it possible to sort out the school children who are referred for various reasons, into their various categories, and dispose of them according to their needs. For example, some of the children referred to the Clinic are sent to Open-air Schools, either day or residential, while certain cases referred for a special schools are found to be suitable cases for Child guidance methods. This is in many ways an advantage in so far as there are cases on the borderlands of neurosis, backwardness, or merely physical disability, which are thus immediately treated according to their most essential needs. At the same time, by keeping the Special School side of the medical service strictly apart in administration from the Child Guidance aspect, any connection between mental defect and the latter is avoided, as it is essential that it should be.

When the Clinic started, too large a number of children were referred, whose difficulties were mainly due to defective intelligence and therefore unsuitable for a Child Guidance Clinic which is supposed to work with children of fairly normal mentality. As knowledge of the Clinic's methods increase, the proportion of suitable candidates for treatment rises; the average I.Q. of cases is 85, which is still lower than that noted for example by the London, and East London, Child Guidance Clinics respectively. Another interesting comparison lies in the number of cases referred and taken on for treatment. Although the Clinic draws its cases only from one sector, comprising about a third of the City in size, and having a school population of 37,000, the total number *referred* is 335, while the number taken on for full *treatment* is 198.* In proportion to the time allotted to this work, which means three sessions weekly for the Psychologist and Pyschiatrist, with one full-time Social Worker, the “case-load” is a heavy one. This means that the treatment given to each case is often less than it should be. There is, of

* In addition, 46 cases have attended for a diagnostic interview only; 68 cases have proved unsuitable, and 23 are awaiting interview.

course, hardly any limit to the time and labour that could be expended on each case (though it may be said that the result is not necessarily commensurate with the output) but the exigencies can only be met by adapting our methods to the situation and using them in a very elastic manner. Thus many cases are seen only for one or two interviews as 'consultation cases'; some receive no social visits from the Social Worker while others receive many; the Psychiatrist sees some cases, both parents and children fairly often, while others attend the play-room without her active interference at all; other cases are mainly the province of the Psychologist. In some cases again, something can be done by the Psychiatrist or Social Worker, or both to alter the parents' attitude to the child, to provide more outlet and encouragement, or in some way to improve the psychological environment. In other cases owing either to a lack of intelligence, to deplorable economic conditions, or some other cause, little can be achieved, in a psychological sense, in this direction, but something can nearly always be done with the child. With confidence restored and some of the conflicts and anxieties resolved, the child is enabled to adjust and face up to a situation when before he could not. The interest and atmosphere of the playroom does a great deal to improve the child's outlook and to affect the desired change. There is much variety of opinion as to the methods and rationale of 'play-technique' but there can be no doubt of its value whether as an individual or collective activity. We have also found weekly meetings, too informal to be called classes, for dancing and gymnastics a valuable addition to the therapeutic resources, and are very grateful to those who conduct them in a voluntary capacity.

The Social Worker, who alone is full-time, is more than fully occupied with her proper work of visiting and interviewing parents, and has in addition to run the play-room and organise the daily routine; to her, therefore, is due in a large measure any success that we have had, but as the number of cases increase, the aid of voluntary workers becomes a necessity though the finding of suitable ones is another matter.

We have recently analysed a series of twenty cases referred from the Children's Court, and find that the factors chiefly responsible for the delinquency (stealing in the majority of cases) were as follows:—

(1)	Faulty home environment in	...	...	...	17 cases.
(2)	Sub-normal intelligence	...	...	...	9 "
(3)	Broken homes (chiefly step-parents)	...	...	...	10 "
(4)	Heredity	...	...	...	7 "
(5)	Marked poverty	...	...	...	6 "
(6)	Physical disability	...	...	...	3 "
(7)	School factor (<i>i.e.</i> , bad school report or dislike of school)	...	...	...	10 "

In addition there is the less tangible personal factor of temperament and personality so difficult of assessment. Only three of these cases could be labelled definitely psychopathic, although most might be considered 'neurotic,' but the former term is used to indicate a more fundamental, possibly inherent, predisposition to mental disorder.

It will be seen that more than one factor is involved in each case but the main factor generally seems to lie in the feeling of deprivation or discouragement brought about by a home-life which is lacking in most of the qualities necessary for a harmonious development of the child.

Of these cases, 5 have been sent to residential open-air schools after a varying amount of observation and treatment at the Clinic, 3 have ended by being sent to approved schools. Of the remainder about half may be said to be cured or much improved (one should not talk of cure until some years have elapsed) while the remainder are still attending with varying degrees of improvement.

In dealing with these cases we maintain close and cordial co-operation with Probation Officers as well as School Attendance Officers.

Of the general run of cases it is not generally the most picturesque that are the most difficult. For example, among the successes we have had the following: (1) A girl who was obsessed by the idea of choking, and in addition to being in a constantly agitated condition indulged in drinking pints of water both day and night. (2) A boy who unpicked the seams of his clothes with his fingers. (3) A girl, who, unable to cope with her school lessons, made noises in class like a puppy yelping, in her unconscious desire to escape the burden of school life.

On the other hand among the most difficult have been those children who refuse to go to school, through an unreasoning dread, fostered by parents who insist that as school has made them 'nervous' it is idle to try and get them back into a frame of mind when school can be faced once more.

I do not consider that we have had a sufficiently long follow-up of cases to make an estimate of results which would be a true reflection of the measure of success or failure; such an attempt must remain for a future report.

MEDICAL EXAMINATION OF CHILDREN REGISTERED FOR EMPLOYMENT IN THE DELIVERY OF NEWSPAPERS OR MILK.

Section 6 (a) of the Bye-Laws governing the employment of children in the delivery of Newspapers or Milk provides that:—

“No child shall be so employed unless within 14 days from the date when the employment begins the child has obtained from a School Medical Officer a certificate that such employment will not be prejudicial to his health or physical development and will not render him unfit to obtain the proper benefit from his education, and a certificate has been produced to and endorsed by his employer. No charge shall be made for such certificate.”

During the year, 1945 such children have been examined.

Many parents accompany the children to the Clinic in order to satisfy themselves, by interviewing the School Medical Officer that their children are physically fit to be so employed. This examination and interview with the parents serves another function than that of a routine inspection, for it enables the Medical Officer to make enquiries into the actual circumstances of the employment, and to determine the maximum number of papers which the child should be allowed to carry, to discover the means whereby the papers are carried, the character of the meal provided, and similar questions. Further the Medical Officer is able to suggest to the children the opportunities for joining some social organisation such as the Scouts, Boys' Brigade, etc. The age of 12 to 14 is a critical one in the psychological development of a child, and it is particularly important that the abundant energies and readiness to group-formation, not very happily termed "the gang spirit" needs guidance and direction, the more so in that these children feel the new found satisfaction and importance of being wage earners.

One of the provisions of the Employment Bye-Laws is to the effect that—

"Every purveyor of milk, or newsagent, employing a child before school hours in the delivery of milk or newspapers, shall see that such child is provided during the course of such employment with such waterproof footwear and a sufficient waterproof garment to protect the child from injury to health from inclement weather."

The reason for this bye-law is obvious. The children are school children, and, after their employment, are required to attend school, and the bye-law was made to ensure that children should be able to attend school in a dry condition and to protect their health.

In one case proceedings were taken under this bye-law on the evidence of a police constable that he had found two boys employed, neither of whom had any overcoat or waterproof clothing. He had felt their clothing which was very wet and both boys said that they had never been supplied with any waterproof clothing. As the case was the first one to be taken under the bye-laws, a nominal fine was imposed, and subsequently a circular concerning the matter was sent to all newsagents employing children for the delivery of papers.

EMPLOYMENT OF CHILDREN.

YEAR.	No. Registered in the delivery of MILK or NEWSPAPERS on 1st July.	Employed in General Employment.	No. of licences issued for Street Trading.	Number of summonses ordered.	
				Street Trading.	General Employment.
1923	1,302	550	83	1	9
1924	1,457	684	42	11	11
1925	1,345	908	16	13	51
1926	1,849	1,041	7	21	85
1927	1,769	1,093	5	9	81
1928	1,866	1,137	4	11	83
1929	1,740	896	2	6	77
1930	2,017	996	1	6	54
1931	1,887	840	—	7	59
1932	2,033	733	2	7	58
1933	2,280	771	2	9	44

The accompanying table shews the number of licences issued, and the virtual abolition of street trading together with the action taken in case of infringement of the bye-law.

THE CHILDREN AND YOUNG PERSONS' ACT, 1933.

The Act which came into operation on the 1st November, considerably extends the care and protection offered to children and young persons. The age at which young persons will be dealt with in the Juvenile Court is increased from sixteen to seventeen years, and already it has become obvious that some serious moral problems will have to be considered. Many of the administrative difficulties of the Children Act of 1908 have been abolished, and it is now possible to bring before the Juvenile Court, without the necessity of finding them "wandering," children and young persons "in need of care and protection" although there is a statutory definition as to the meaning of "in need of care and protection."

The duty of providing Remand Homes is transferred to the local authority, and the Council delegated this duty to the Education Committee except so far as the Girls' Hostel in Newton Street is so used. Consideration will have to be given to the inadequacy of the present provision, and as to the best arrangements that can be made for the appropriate housing of these children and young persons during remand.

One advantage which it is hoped will result from the transfer of this duty is that it should greatly facilitate the arrangements for providing medical treatment for the children and young persons accommodated therein.

The Court can now commit children and young persons to the care of the local authority, which is required to board them out, and a number of such cases have already been dealt with.

The results of this Act are already seen in the increased number of children sent to the Remand Home, and to the Receiving Homes, Summer Hill. To the latter are sent the younger children committed to the care of the local authority, and those boys under ten years of age who have been charged at the Children's Court.

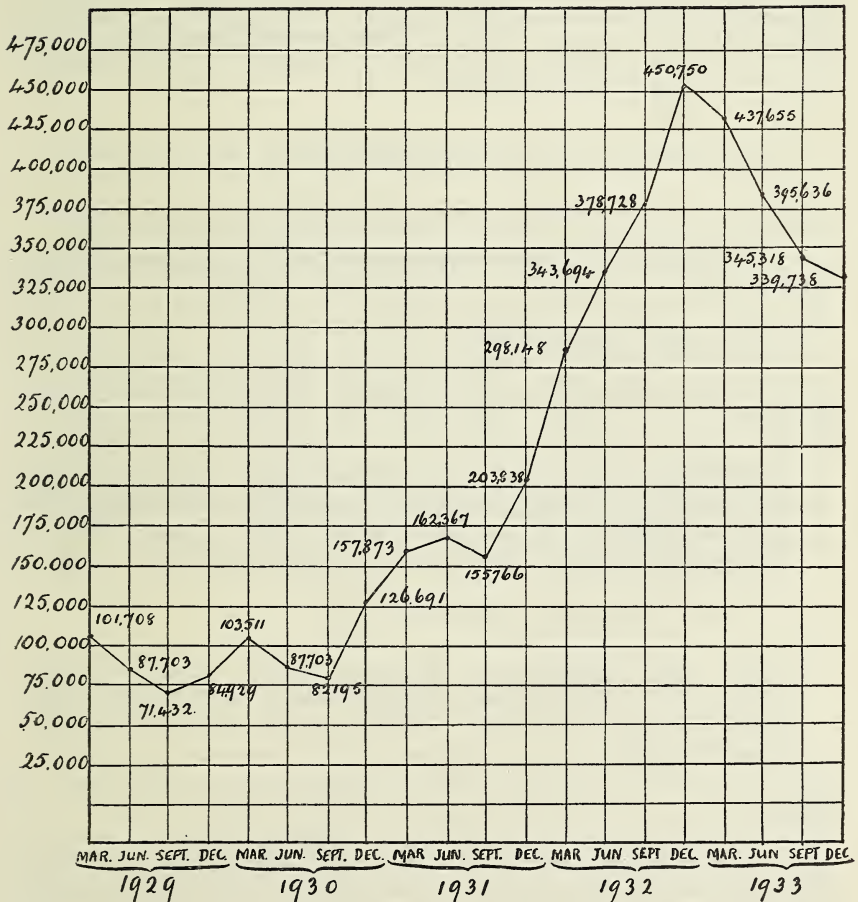
During the year I examined 66 boys at the Remand Home, of whom only five were between 10 and 11 years, and 15 under 12 (inclusive). At the Receiving Homes I examined 33 children, and three girls at the Hostel in Newton Street.

PROVISION OF MEALS.

The economic stress is reflected in the number of free meals given, and in the number of recipients. It will be seen from the following table that 47,027 more meals were provided than in the previous year, and 838,603 more than in 1931. Some encouragement may, however, be found in the reduction in the daily averages for the second half of the year as compared with 1932 as pointing to an increase in employment.

Total number of meals provided	...	...	...	...	1,518,347
Daily Average :					
1st January	...	...	...	...	4,185
1st July	...	...	...	...	4,114
31st December	...	...	...	...	3,358
Total number of children who have received free meals					11,098

The accompanying graph shows the number of meals supplied during each quarter of the past five years. The great increase in the number of meals which followed the financial crisis of the Autumn of 1931 is clearly indicated and shows the necessity of a scheme in being which is capable of adaptation to meet any sudden upheaval in the industrial position in the City.



During the period under review, four new kitchens have been established, three of which have a dining room. In the fourth the kitchen has been constructed beside a classroom used for practical work which serves also as a dining room.

Considerable progress has also been made in improvements at the older centres. In two cases it has been possible to adapt class-rooms which had become vacant, consequent upon the re-organization of the schools. Further, three kitchens have been re-conditioned and dining rooms have been added. Two more are under consideration.

The kitchens now under the direct control of the Committee number 24 from which approximately 80 per cent. of the meals at present are supplied, while the remaining 20 per cent. are supplied by contractors from 21 contract centres. When children attending one of the twelve Special Schools come within the provisions of the Act, the cost is charged to the Provision of Meals account.

The following new Centres have been opened during the year :—

Birches Green, Sladefield Road, Yardley Wood, Yarnfield Road.

The following are the Centres where school premises have been adapted :—

Farm Street, Summer Lane.

The Centres which have been re-conditioned and dining rooms added are :—

Bristol Street, Foundry Road, Steward Street, while Eliot Street and Sherbourne Road were under consideration in December, 1933 (during January, 1934, school premises have been adapted at Sherbourne Road and the old kitchen has been closed).

The other Centres are situated as under :—

Arden Road, Alfred Street, Dartmouth Street, Floodgate Street, Jenkins Street, Osler Street, Peckham Road, Perry Common, Rea Street South, Severne Road, Tinkers Farm Road, Tiverton Road, Wattville Road.

Dietary.

A few minor changes have been made in the dietary, enabling a more generous allowance of fish to be supplied without increasing the cost of the meals. Another change has been the introduction of three-quarter cream dried milk powder containing added vitamin D and a minute quantity of added iron. This powder contains added vitamin D in the proportion of 130 international units to each pint of reconstituted milk—this amount of vitamin D is equal to that in about half a teaspoonful of cod liver oil. The quantity of added iron is 40 parts per million of the powder. Vitaminized margarine is also used in preparing and cooking some of the food.

It will be seen that in drawing up the specifications for the composition of the meals supplied, an attempt has been made to give a carefully balanced diet, which supplies more liberally those items of high food value which are lacking from their food at home. It may be stated as axiomatic that a physiologically adequate diet is the key-note to health.

Mention should here be made of the scheme for the sale of milk in the schools, originally arranged through the Milk Publicity Council. It is not possible to determine the number of children who take advantage of this opportunity to obtain a third of a pint of milk each morning. The number varies from week to week, but it is unfortunate that poverty prevents those children who perhaps most need the extra ration from obtaining it. That growing children should receive a pint of milk *per diem* is now generally recognised.

NUTRITION.

There are so many factors which go towards making up an estimate of nutrition that any numerical conclusion from the results of different observers is misleading. This difficulty of defining malnutrition is shewn by the multiplicity of formulae, gauges and methods which have been suggested as being satisfactory measures of nutrition. However, it may be safely stated that the children in the City do not shew evidence of that malnutrition which is encountered in those areas of the country which have gone through the long period of depression. If we take the total figures (Table ii, page 51, columns 2, 3, 4, 5) of the children found to be suffering from malnutrition, we find that these only form 1.3 per cent. of all children inspected during the year. If we regard only those noted as requiring treatment the percentage is only .85 of the whole. Moreover, many of these are suffering from some ill-defined physical condition which is not apparently attributable to lack of sustenance.

PSYCHOLOGICAL METHODS IN VOCATIONAL GUIDANCE.

For some years past a research has been carried out by members of the Staff of the Juvenile Employment and Welfare Department into the value of psychological methods in vocational guidance. This has been linked with the School Medical Department by the fact that a special medical examination of all the children in the tested group was carried out by an Assistant School Medical Officer (Dr. Marion Burt) using a medical schedule drawn upon the lines of that used for a comparable experiment carried out by the National Institute of Industrial psychology. In this investigation, the children leaving three Elementary Schools were divided into two groups. The children in one group were given vocational guidance in accordance with the general method followed in Birmingham and constituted the "control group." The children in the other group constituted the "tested group" and were given guidance based on the results of a series of psychological tests studied in con-

junction with medical, social, scholastic and temperamental reports.* Apart from the psychological importance of the investigation as a whole, the findings of the detailed medical examination are of considerable interest. Eighty boys and 76 girls were thus examined with the following results:—

PHYSICAL ABNORMALITIES.

<i>Abnormality in respect of :</i>	<i>Boys.</i>		<i>Girls.</i>	
	No.	%	No.	%
Height	2	2.5	0	0
Nutrition	4	5	1	1.3
Muscular development	6	7.5	8	10.5
Vision	10	12.5	14	18.4
Colour vision (Holmgren's coloured wool test)	2	2.5	1	1.3
Hearing (forced whisper test) ...	6	7.5	6	7.9
Ear discharge	1	1.25	2	2.6
Speech	5	6.25	2	2.6
Teeth	17	21.25	11	14.5
Glands	6	7.5	2	2.6
Skin	5	6.25	7	9.2
Catarrhal states	27	33.75	24	31.5
Tonsillar enlargement or sepsis ...	9	11.25	6	7.9
Adenoids (marked)	2	2.5	0	0
Lungs	1	1.25	0	0
Respiratory habit (mouth breathing, markedly poor chest expansion)	13	16.25	22	28.9
Heart	4	5	2	2.6
Vascular tone and circulation ...	3	3.75	13	17.1
General nervous instability ...	7	8.75	7	9.2
Tremor	3	3.75	5	6.6
Walk (special clumsiness, etc.) ...	2	2.5	2	2.6
Muscular balance (Romberg's sign)	2	2.5	1	1.3
Other defects (deformities, etc.) ...	5	6.25	4	5.3
Left-handedness (obvious cases only)	4	5	3	3.9

It is noteworthy, that the sex differences correspond to what is commonly found in examining school children. As a rule girls show a comparatively large number of defects in muscular development and form vision, but are relatively free from defective muscular co-ordination including that of balance and speech. On the other hand, boys show a greater tendency to speech defects, left-handedness and defects of colour vision. The above table shows a high proportion of defects in vascular tone and circulation, and still more in respiratory habit, these being apparently more common among the girls. Catarrhal states are frequent, and the figures for these and for enlargement (and sepsis) of tonsils and adenoids suggest the possibility that boys may be more prone to them.

* The results of the investigation have already been published. "The Value of Vocational Tests as aids to Choice of Employment." Report on Research by E. P. Allen and Percival Smith.

The number of *actual defects* found was 85, of which 42 were among the boys and 43 among the girls. The number of individuals showing defects was 69 (or 44.2 per cent), of whom 34 were boys and 35 girls. These latter figures, however, do not include those who had poor colour vision or chronic catarrhal states as their sole deviation from the normal. Thus 30 (or 19.2 per cent.) individuals, of whom 17 were boys and 13 girls, showed a chronic catarrhal state of the upper respiratory tract (nasopharynx, larynx), as their only abnormality, while 24 (or 15.4 per cent.), of whom 13 were boys and 11 girls, showed this as an additional defect. It was thought inadvisable to estimate a catarrhal state as a separate defect since it is so frequent amongst our school population that a mild degree passes almost unnoticed. It does, however, undoubtedly indicate a lowering of the general state of health. The only girl who was poor in the colour vision test showed no other abnormality.

18 (or 11.5 per cent.) children remain unclassified. These, though showing no definable defect nor abnormality, appeared to be in a poor condition of health at the time of examination.

At the same time the opportunity was utilised of carrying out a research into the question of blood pressure in children, a question upon which there is little information forthcoming at present.

In the original experiment it was found that children who received vocational guidance along psychological lines were better placed in industry (if they took the advice given to them), than were children who were guided by the ordinary methods. In deciding the details of the present experiments an effort is being made in two schools to eliminate the significance of the home visit and at another two schools to eliminate the significance of the special medical examination. With this object in view all the children leaving these two schools, both those who are having the psychological tests and those who are being used for "control" cases, are being examined either by Dr. Payton or Dr. Mitchell.

INFECTIOUS DISEASES.

The Health Department has supplied the following figures for the chief forms of notified infectious disease :—

	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Scarlet Fever	2,219	1,852	1,709	1,510	1,521	2,413	2,397	2,761	2,544	2,667
Diphtheria ...	1,887	1,896	1,804	1,543	1,552	1,611	1,701	1,171	620	*417
Cerebro-spinal Meningitis ...	11	7	10	12	12	15	14	25	31	26
Anterior Poliomyelitis	39	11	38	15	6	6	9	3	17	10
Encephalitis Lethargica ...	282	92	89	53	41	27	10	18	23	25
Ophthalmia Neonatorum	413	335	395	409	530	522	596	617	319	177
Polio- Encephalitis	6	1	4	2	1	3	0	1	1	0

These figures refer to cases of all ages, but as the greatest amount of infectious disease occurs before adolescence is completed, they afford a reliable index as to the general incidence in the school population.

* This figure is made up as follows :—

Under school age ...	...	...	...	...	110
5 to 15 ...	...	...	...	...	283
Over 15 ...	...	...	...	...	24

CITY OF BIRMINGHAM.

DEATHS OF CHILDREN AGED 5-15.

CAUSES OF DEATH CHILDREN 5-15	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Measles	8	24	19	11	5	13	5	9	2	8	3	16	6	22	3	6
Scarlet Fever	7	24	40	16	11	18	7	7	4	3	1	3	9	4	4	10
Whooping Cough	10	3	8	5	7	0	2	4	8	2	4	7	6	4	7	2
Diphtheria	87	63	95	64	49	60	51	39	64	37	38	41	34	36	17	15
Influenza	223	42	25	2	6	6	8	10	2	9	4	14	2	2	4	6
Pulmonary																
Tuberculosis.....	52	31	26	25	22	24	17	23	16	17	10	18	13	13	16	8
Tuberculous																
Meningitis	20	19	9	15	15	13	12	20	13	18	13	7	11	15	12	14
" Peritonitis																
& Intestines	9	16	5	6	7	6	3	5	6	9	1	6	2	3	0	1
Other Tubercu- lous Diseases	21	17	17	7	7	12	4	9	5	11	8	4	5	6	10	10
Rheumatic Fever	10	9	17	8	14	13	17	22	24	21	17	18	26	18	24	17
Cerebro-Spinal Fever.....	4	2	3	0	3	0	0	0	0	1	2	2	2	1	1	1
Heart Diseases.....	27	41	30	28	31	24	21	25	27	14	22	22	13	11	9	9
Bronchitis	10	11	5	3	4	5	0	4	3	6	1	3	0	0	1	1
Pneumonia	91	56	49	46	36	31	25	31	35	34	23	26	16	24	18	19
Appendicitis	16	25	20	20	15	13	14	13	11	10	13	10	9	9	7	12
Accidents	57	44	43	29	24	32	25	40	43	28	46	58	51	40	43	45
All Other Causes	86	99	110	89	80	99	88	79	89	96	78	104	77	66	96	91
TOTAL	738	526	521	374	336	369	299	340	352	324	284	359	282	274	272	267

CONCLUSION.

In bringing this Report to a conclusion it is a pleasure to record the unstinted help which is always forthcoming from the Teachers, School Attendance Officers, Juvenile Welfare Workers, Visitors of Boarded-out Children, Private Practitioners, Voluntary Workers and others, upon whose co-operation the smooth working of the School Medical Service depends so much.

SPECIAL SCHOOLS SUB-COMMITTEE, 1932-33.

Councillor Miss SANT (*Chairman*).
Mr. Alderman W. B. KENRICK (*Ex-officio*).
Mr. Alderman T. QUINNEY, J.P.
Alderman Dr. W. B. FEATHERSTONE, J.P.
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CHIEF EDUCATION OFFICER:

P. D. INNES, M.A., D.Sc.

CLERK TO SUB-COMMITTEE:

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INSPECTOR OF RESIDENTIAL AND SPECIAL SCHOOLS:

ELIZABETH L. S. ROSS, M.A., B.Ed.

SPECIAL SCHOOLS MEDICAL OFFICER:

CHARLES L. C. BURNS, M.R.C.S., L.R.C.P., D.P.M.

OPHTHALMIC SURGEON:

H. W. ARCHER HALL, D.O.

ORTHOPAEDIC SURGEON:

F. WILSON STUART, M.D., Ch.M.

VISITING MEDICAL OFFICERS:

Baskerville School: FREDK. B. WINFIELD, O.B.E., M.R.C.S., M.R.C.P.

Cropwood School: MITCHELL I. DICK, M.B., Ch.B.

SPECIAL SCHOOLS.

ANNUAL REPORT OF THE SPECIAL SCHOOLS MEDICAL
OFFICER, CHARLES L. C. BURNS, M.R.C.S., L.R.C.P., D.P.M.,
FOR THE YEAR ENDED 31st DECEMBER, 1933.

MEDICAL INSPECTION AND TREATMENT.

Routine Medical Inspections of children in attendance at the Special Schools have been held in the past year under similar conditions to those in force during the previous year.

The total number of children examined was 1,126.

As in former years, the number relates to general medical examinations of the Blind and Partially Blind, Deaf, Mentally Defective, and those Physically Defective children who are in attendance at Day Schools. It does not include the children seen at the more frequent visits to the Baskerville School, and the Day and Residential Open-Air Schools.

Children who needed treatment of minor ailments, defects of vision, tonsil and adenoid operations, were referred to the School Clinics, or in exceptional cases to the Hospitals.

SCHOOLS FOR THE MENTALLY DEFECTIVE.

ADMISSION EXAMINATIONS.

The following return shows the number of children who were examined with a view to admission to the Special Schools for the Mentally Defective, and the decisions arrived at :—

Number of children examined	...	...	...	...	448
Number certified as mentally defective	...	...	...	...	323*
Number to remain at Ordinary Schools	...	...	...	...	80†
Number temporarily excluded from school attendance	...	...	...	...	21
Number certified as ineducable	...	...	...	...	24

*Includes 7 for "Ascertainment" purposes only.

†Of these 53 were to be seen again later, and 1 was referred to Child Guidance Clinic.

PERIODICAL EXAMINATIONS.

Periodical Examinations were held as usual once each term at all the Schools for the Mentally Defective.

A summary of the results is given below :—

Children allowed to leave between 14 and 16 years of age for approved employment	...	...	...	...	...	88*
Children leaving Special Schools at the age of 16	...	...	...	...	...	44†
Children discharged and notified to M.D. Act Committee as unable to derive further benefit from Special School Instruction	...	...	...	...	...	54
Child transferred to Monyhull Residential School	...	...	...	...	...	1
Children temporarily excluded from school attendance	...	...	...	...	...	3
Child transferred to Cropwood O.A.	...	...	...	...	...	1
Child transferred to Deaf School	...	...	...	...	...	1

* Of these, 13 left at 14 years of age, 33 between the the ages of 14 and 15, and 42 between the ages of 15 and 16. 76 of these children were to be reported to the Local M.D. Act Committee for statutory supervision, and 12 were de-certified.

† All of these children were to be reported to the Local M.D. Act Committee for statutory supervision.

The increased provision for the physical well-being of the children in the schools for the *Mentally Defective* which it is hoped some day may be possible, in the shape of longer hours in the school, more physical training, school meals for all, etc., does not yet materialise. It depends, however, largely on the initiative of the Head Teacher of such a school as to what advances are possible, for example, as to how many of the children continue to feed on the "pieces" which they bring to school for dinner; in one school this number was reduced to zero. In another school, again, the Head Master has managed to secure a camping site, to build a hut, and to have regular week-end camps for the boys at his school, while at yet another school week-end camps have been organised. The effects of such efforts on the morale of the school are bound to be great; and with these schools it is morale above all that counts. The extension of this camp-life to the Day Schools for Mentally-Defective children would help to give them some of the advantages which residential schools possess over day ones. Some advance will now be possible in respect of physical training, although less can be hoped in the way of results than in the case of open air schools, not only from the lesser degree of mental ability, but also from the inadequate nutrition and lack of fresh air from which most of these children suffer.

Waiting lists at December 31st, 1933, of children reported for examination with a view to their admission to M.D. Schools.

Bristol Street School	...	...	...	...	...	15
Burlington Street School	...	...	...	...	...	90
Fashoda Road School	...	...	...	...	...	2
Gem Street School	...	...	...	...	...	83
George Street West School	...	...	...	...	...	12
Hamilton Road School...	...	...	...	...	...	10
Little Green Lane School	...	...	...	...	...	57
Ralph Road School	...	...	...	...	...	10
Sherbourne Road School	...	...	...	...	...	33
						212

This list contains about 100 fewer names than at the end of the year 1932, and 200 less than in 1931.

SCHOOLS FOR THE PHYSICALLY DEFECTIVE.

DAY SCHOOLS—ADMISSION EXAMINATIONS.

The following table shows the examinations of children held during the year with a view to admission to the Day Schools for the Physically Defective :—

Number of children examined	...	...	...	...	69
Number certified for admission	...	...	...	...	56
Number able to remain at ordinary schools	...	...	...	...	4
Number temporarily unfit for school attendance	...	...	...	...	1
Number deferred for further consideration	...	...	...	...	7
No action—Over 14 years	...	...	...	...	1

PERIODICAL EXAMINATIONS.

A summary is given below of the decisions made at the Periodical Examinations held once each term at these schools :—

Children to leave for work between 14 and 16 years of age	.....	14*
Children transferred to ordinary schools	.....	6
Child transferred to Day (M.D.) Schools	.....	1
Children excluded as temporarily unfit to attend school	.....	8
Children excluded as ineducable	.....	4
Child transferred to Forelands	.....	1
Permanently excluded	.....	1
Child transferred to Monyhull	.....	1
Age to leave (16 years)	.....	8†
Number deferred for further consideration	.....	2

* 1 certified as M.D. for "ascertainment" purposes.

† 1 certified as M.D. for "ascertainment" purposes.

There is urgent need for better accommodation in the Day P.D. Schools, where conditions are somewhat congested, although both these schools make the most of their resources. A large proportion of the scholars are cases of severe heart-disease, most of whom have been to Baskerville School previously and are not fit for Elementary Schools when they leave. These cases furnish a different problem from children with crippled limbs, and it may appear both desirable and possible in the future, to provide Special Schools or Classes for them, apart from the cripples.

The numbers are distributed in the two Day P. D. Schools at present as follows :—

			<i>Cripples.</i>	<i>Heart Disease.</i>	<i>Total.</i>
Little Green Lane	...	...	92	48	140
George Street West	...	...	93	32	125

ORTHOPAEDIC INSPECTION.

The following report has been received from Mr. F. Wilson Stuart, M.D., Ch.M., with regard to his work as Orthopaedic Surgeon at the two Day Schools for the Physically Defective :—

During the year seven inspections were carried out at George Street West P. D. School, and six at Little Green Lane. At the former ninety-three children were examined and at the latter ninety-six.

Much valuable work is being accomplished by the masseuses and at George Street West closer co-operation has been made possible by the attendance of the masseuse on surgeon's inspection days; also the provision of a radiant heat bath and Bristow coil for the electrical treatment of paralysed muscles has enabled cases to remain in school which would otherwise have to attend the massage department at the Royal Cripples' Hospital.

The following list of treatments given shows the amount of work which has been accomplished :—

GEORGE STREET WEST P.D. SCHOOL.

Collective Class Remedial Exercises	42
Massage treatments with arm and leg baths	688
Individual Exercises in re-education and corrective postures	872

LITTLE GREEN LANE P.D. SCHOOL.

No. of patients treated	45
„ „ attendances	2,075
„ „ Massage and Exercises... ..	2,060
„ „ Radiant Heat Applications	586
„ „ Electrical Treatments	460

BASKERVILLE RESIDENTIAL SCHOOL

(Accommodation 90 ; Boys 42, Girls 48).

During the year 91 children were admitted, and 83 left. The causes of leaving were as shown below :—

Children fit to leave between the ages of 14 and 16 years	3
Children transferred to ordinary schools	19
Children withdrawn by parents	7
Children removed to Hospital... ..	14
Children transferred to Cropwood	5
Children transferred to Day (O.A.) Schools	5
Children transferred to Day (P.D.) Schools	27
Child transferred to M.D. Schools	1
Left City... ..	2

13 The average length of stay at the school of the children referred to above was months.

The usual Admission Examinations were held in connection with this school, when 89 children were seen, 78 being certified as suitable for admission; 6 were to remain at ordinary Elementary Schools; two were temporarily exempted from attendance at any school; one was to go to Hospital, one was referred to the Family Doctor, and one was recommended for admission to the Woodlands.

Baskerville School was unfortunate in suffering from an epidemic of tonsillitis and rheumatic infection in the winter of 1932-33. This was mentioned in last year's report but it is now possible to see what the effects of this visitation have been.

Twenty-nine cases were affected, in the sense of running the typical temperature, although not all complained of sore throat or showed any definite throat signs. Of these the delayed reaction, i.e., a further rise of temperature with fresh rheumatic or cardiac manifestations after a latent period of two to three weeks was as follows :—

Nil	in 4
Slight	in 9
Severe	in 6
Very severe	in 8
Not known (owing to Holidays)	in 2
Total	<u>29</u>

The after affects were :—

Nil	in 10
Doubtful	in 4
Chorea later	in 2
Fresh carditis	in 13
	<u>29</u>

Seven of the cases of carditis were severe enough to be admitted to hospital. The after effects on the heart were found to be directly proportional to the severity of the delayed reaction. The serious results of an epidemic of this nature can, therefore, be gauged by the fact that probably half of the 29 cases have had permanent fresh damage inflicted upon their hearts. Although such a result may be to some extent inevitable it is none the less deplorable, and raises the question of what can be done to prevent it. One of the chief means to this end is rest in bed for three weeks from the onset of the attack. Owing to the organisation of Baskerville as a School rather than as a Hospital, there are not sufficient resources in the nature of isolation space and nursing, to make this altogether possible, and, moreover, such cases are not suitable for admission to Hospital. For a future occasion, such resources must be found, for otherwise the risk of severe after effect is too great. Subsidiary measures include the administration of salicylates, mainly in the form of aspirin, and the prevention of infection by pencils, feeding utensils, etc. The whole matter of rheumatic infection needs much research, and the closer co-operation with the Children's Hospital, which will now be possible, through the organisation of the Rheumatic Clinic under Professor Wilkinson, and the appointment of Dr. Smallwood, of the Children's Hospital, Birmingham, as Consultant to Baskerville School.

During the months of December, and January of this year, an epidemic of diphtheria occurred and twelve cases were taken to the Fever Hospital. Fortunately no ill effects to the heart have been noticed in any.

OPEN-AIR SCHOOLS.

UFFCULME DAY SCHOOL. (Accommodation 120).

The number of admissions to this School during the year was 98 and the number of children who left was 101.

The following were the causes for leaving :—

Children who improved sufficiently to be transferred to ordinary schools	29
Children who left at 14 years of age, whose physical condition was satisfactory	23
Children transferred to Cropwood Residential Open-Air School	8
Children transferred to Hunters Hill Residential O.A. School	24
Children transferred to Baskerville P.D. School	4
Children who left owing to distance of home from school	4
Child who left owing to parents leaving City	1
Children transferred to a school for the M.D.	5
Children withdrawn by parents	2
Child transferred to Sanatorium	1

The average length of stay at the School of the children referred to above was 21 months.

The customary Admission Examinations were held, when 105 children were seen. Of these 100 were certified for admission to Uffculme, and 3 were considered suitable to remain at Elementary Schools, one was deferred for further consideration, and one was considered suitable to remain at an M.D. School.

REPORT ON SLEEPING-IN DURING THE SUMMER OF 1933.

Forty children slept at Uffculme from Monday to Friday of each week from May 1st to September 30th. This year thirty boys of all ages and 10 girls under 11 years were selected on account of (a) long distance (b) insufficient rest at night, or (c) overcrowded homes.

The experiment of having boys and girls together worked very satisfactorily, although the little girls preferred to play in a small group by themselves.

The children were very happy and contented, and the average weight gain for the five summer months was $5\frac{1}{2}$ lbs., in spite of the fact that the children went home for the week-ends. This presents a very striking contrast to the following winter gain, when the average for the same children was only $\frac{1}{2}$ lb. in $4\frac{1}{2}$ months. Only in four cases was the summer progress reasonably maintained during the winter months. I feel that the unsatisfactory winter gain is due very largely to lack of rest at night, and letters have been sent to all parents endeavouring to persuade them to see that the children go to bed early.

MARSH HILL DAY O.A. SCHOOL. (Accommodation 200).

The number of admissions to this School during the year was 128, and the number of children who left was 126.

The following were the causes for leaving :—

Children who improved sufficiently to be transferred to ordinary schools	...	...	...	...	...	...	33
Children who left at 14 years of age or over	...	...	...	...	...	...	21
Children transferred to Cropwood and Hunters Hill A.O. Schools	...	...	...	...	...	...	44
Child transferred to a Secondary School	...	...	...	...	...	...	1
Children transferred to Schools for the M.D.	...	...	...	...	...	...	9
Children transferred to Baskerville School	...	...	...	...	...	...	3
Child transferred to Blue Coat School	...	...	...	...	...	...	1
Child transferred to Shawbury School	...	...	...	...	...	...	1
Children transferred to Haseley Hall	...	...	...	...	...	...	2
Children transferred to Sanatorium	...	...	...	...	...	...	2
Children who left owing to distance of home from School	...	...	...	...	...	...	3
Children withdrawn by parents	...	...	...	...	...	...	6

The average length of stay at the School of the above-mentioned children was 19 months.

Admission Examinations were held at which 124 children were examined. Of these 119 were certified as suitable for admission and 4 were considered fit to remain at ordinary Elementary Schools and one was deferred for further consideration.

CROPWOOD RESIDENTIAL O.A. SCHOOL. (Accommodation 80).

This School has been used exclusively for girls since Easter, 1930.

During the year 50 children were admitted to, and 49 left, the Cropwood Girl's School. The causes of leaving were as shown below :—

Children who improved sufficiently to be transferred to Ordinary Schools	...	...	...	...	...	...	18
Children who left at 14 years of age, or over, whose physical condition was satisfactory	...	...	...	...	...	...	13
Children withdrawn by parents	...	...	...	...	...	...	7
Child removed to Hospital	...	...	...	...	...	...	1
Child transferred to M.D. Schools	...	...	...	...	...	...	2
Children transferred to Day O.A. Schools	...	...	...	...	...	...	8

The average time spent by children at the Cropwood School was 16½ months.

Admission Examinations were held at which 54 children were seen. Of these 53 were certified for admission and one case was deferred for further consideration.

HUNTERS HILL RESIDENTIAL O.A. SCHOOL. (Accommodation 120).

This new School provides residential accommodation for 120 boys and the first scholars were admitted there in May, 1933. With the additional accommodation afforded by the opening of this School, good facilities now exist in the City for delicate children of both sexes who are in need of Residential Open Air School treatment or who reside at too great a distance to attend the Day Open Air Schools at Erdington and Moseley.

The new School at Hunters Hill, which is for boys only, obviates the need for the biennial change which was formerly necessary at the

Cropwood School, when boys and girls were in residence alternately at two yearly intervals, a system with obvious disadvantages but was the best possible arrangement under the circumstances. Thanks to the generosity of a private donor, the original site, which is eminently suited for the purpose, together with an additional strip of land, has been given to the City, and the lay-out of the grounds is being dealt with partly at private expense.

The number of admissions to this School from May to December was 133, and the number who left was 19.

The following were the causes for leaving :—

Children who improved sufficiently to be transferred to Ordinary								
Schools	.....	.....	.....	.....	.....	.....	.....	2
Child who left at 14 years of age	.....	.....	.....	.....	.....	.....	.....	1
Children withdrawn by parents	.....	.....	.....	.....	.....	.....	.....	11
Child transferred to a Day O.A. School	.....	.....	.....	.....	.....	.....	.....	1
Children transferred to Hospital	.....	.....	.....	.....	.....	.....	.....	2
Children who were found to be unsuitable for a Residential O.A.								
School	.....	.....	.....	.....	.....	.....	.....	2

Admission Examinations were held at which 94 children were seen and 91 were certified as suitable for admission and 3 were considered fit to remain at ordinary Elementary Schools.

The School is one of the most cheerful and hopeful place that can be imagined in these times of unemployment and distress. The same can be said of Cropwood, the corresponding School for girls, but the former has the added charm of novelty. The result achieved in these Schools in the case of the vast majority of cases is wonderful to behold. Boys who are described on admission as thin, flabby, anaemic, and so forth, turn in a few weeks into upright, sturdy, brown-skinned specimens. It has been remarked by some who have watched them giving a demonstration of physical training, stripped to the waist, that many of them look very thin, and it is true that in the sun-light their ribs and scapulae stand out in light and shadow, but the same is true of most normal healthy boys round about the age of eleven; if examined close to, they will be found to have firm, well-knit muscles, with no spare flesh, while the skin bears that smooth, satiny quality which constant exposure to sun and wind alone can give.

The average gain of weight and height do not of themselves give a complete picture of results achieved for these are measured as much by the vital activity of respiration, muscle-tone, alertness, and other factors. When cases are seen a year or two years after leaving School, the picture, it is true, is not such a bright one.

For example, at a follow-up examination of boys and girls who had left Cropwood between 1930 and 1932, the results were classified as follows :—

Very satisfactory	...	...	...	...	...	...	...	1
Satisfactory	...	...	...	...	...	...	...	14
Fair	...	...	...	...	...	...	...	8
Unsatisfactory	...	...	...	...	...	...	...	10
								33

Of these, two were young enough to return to Cropwood, and fifteen were admitted to Day Open-Air Schools. It must be added, however, that little more than half of the cases summoned were able to appear, and it may be supposed that the great majority of the rest were at work.

Other examinations have shown that if examined a year after leaving, the results are found to be far more satisfactory; it is probably the onset of adolescence, and starting work at this age, which provoke a break-down in cases who have previously been delicate.

The late results furnish a sad reflection in many cases on the kind of homes from which these children come. Housing conditions and poverty are mainly to blame for these relapses; in some cases it is merely the unwisdom of foolish though possibly well-meaning parents; in not a few, however, one feels that the child must be made ill by the mere force of suggestion—so ever-anxious and lugubrious are the mothers about the children's health.

The contrast between the child at one of these Schools and the same child a year or two later, is often more striking than in the case of ex-scholars of the Day Open-air Schools. This may seem strange, but is explained by the fact that the children who are sent to Residential Schools are generally either the most urgent cases, or those who are dragging on and not doing well at the Day Open-air School, precisely because home conditions are particularly bad. There is no doubt that provision of this kind for delicate children has outstripped the social environment from which they come; in other words, there must be considerable improvement in the living conditions and purchasing power of a large portion of the population before our efforts towards amelioration of delicate children can rest on an adequate basis. To have these children living for a year or two in a promised land of good food and clothes, air and space, and a cheerful freedom from care, and then to send them back to the surroundings from which they came, is little short of tragic.

The effect of sleeping away from home is strikingly shown by a comparison of the average gain in weight of the forty boys who slept at Uffculme School for four nights in the week during the summer months, as against their average gain during the winter months, as previously mentioned.

Yet, when all is said, the improvement in health achieved by the day open-air schools is quite remarkable, particularly in chest cases, considering the sleeping conditions in the homes of most. The improvement is noted even after the first few days by many of the parents. It is hoped this year to have 40 boys also sleeping at Marsh Hill, while at Uffculme there is to be provision for girls as well.

The appointment of Miss Allen as full-time teacher for remedial exercises to the Special Schools has made possible the extension of this branch of the work to all the open-air schools, where not only postural defects due to debility are to be treated, but many chest complaints such as fibrosis and asthma, which undoubtedly benefit by breathing and other exercises skilfully administered.

SCHOOLS FOR THE PARTIALLY-SIGHTED.

Dr. H. W. Archer Hall, D.O. (Oxon.), has supplied the following report on his work in connection with the three Day Schools for Partially-Sighted children at Edgbaston, Moseley Road and Whitehead Road :—

“During the year ending December 31st, 1933, I visited each of the three Part-Sighted Schools on three occasions with a few months interval in between the inspections.

“At these visits, I arranged for examination at the Great Charles Street School Clinic, of those children in whom it was desirable.

“Sixty-four children were so examined, and fresh glasses or other form of treatment prescribed.

“It was found possible to send four patients back to Sighted Schools.

“In the routine examination of Elementary School children, I found 15 cases where transference to Part-Sighted School was essential.”

“I also had to certify six children for admission to the Blind Institution.

The following table shows the number of children who were admitted to or who left from each of the three Schools for the Partially-Sighted during the calendar year :—

	<i>Edgbaston.</i>	<i>Moseley Road.</i>	<i>Whitehead Road.</i>
Number admitted during the year	7	10	10
Number who left during the year	4	12	13
Number transferred to Ordinary Schools ...	—	3	1
Number who left for work at 14 years or over	2	6	10
Number transferred to Edgbaston Partially-Sighted School	—	2	1
Number transferred for technical training at Edgbaston Institution at 16	2	—	—
Number transferred to M.D. School	—	1	—
Number transferred to Summerhill	—	—	1

SUMMER SCHOOL FOR DEFECTIVE CHILDREN.

TOWYN SUMMER SCHOOL.

The arrangements in connection with the Summer School at Glan-y-don, Towyn, during 1933, were similar to those of previous years.

Eight groups of 24 children in each group attended for two weeks each, and the School was in session from May 3rd—July 26th and from September 6th—October 4th. The participating Schools were:—

(1)	Ralph Road M.D.	Girls
(2)	Gem Street Deaf	Girls and Boys
(3)	Little Green Lane P.D.	Boys
(4)	Burlington Street M.D.	Girls
(5)	George Street West P.D.	Boys
(6)	Sherbourne Road M.D.	Boys
(7)	Gem Street M.D.	Boys
(8)	Little Green Lane M.D.	Boys

Mrs. Kember again acted as House Mother, for the tenth consecutive year, and shouldered her many responsibilities with great success and cheerfulness, while the same daily cook was employed as last year.

The groups from the Cripple Schools were accompanied by one of their own teachers and a Nurse; all the others were accompanied by two teachers. The Mentally-Defective Boys' groups had two men in charge except in the case of the Little Green Lane School, where an Assistant Master and an Assistant Mistress shared the work. Apart from the children from the Deaf and Cripple Schools, the range of age was almost entirely 11—15 years, the great majority being over 12. This was a decided improvement on previous years, and was facilitated by the organisation of the Senior Departments in the Schools for the Mentally-Defective. There are now more children of one sex and of this range of age in each of these Schools.

The cases of illness among the children were rather more numerous than in the previous year. One case of chicken-pox occurred, one of slight bronchitis, and two of tonsillitis. One boy in the last group sent was found to be suffering from appendicitis, and had to be removed to hospital, but fortunately an operation was not required.

The weight records of the children were very satisfactory on the whole, though there were great variations, difficult to account for, in the different groups. According to the tables 80 children gained over 4 lbs. in the fortnight.

There is no doubt that participation in the Summer School improves the physical condition of many, and what is even more important, it gives training in habits of healthy living far beyond anything that can be done under Day School conditions.

The children's activities and the educational work carried out were on much the same lines as in previous years. The usual excursions were undertaken on foot, by the narrow gauge railway and by motor charabanc, so that the children obtained an excellent impression of seashore and country life. The journeys through the wild scenery of the Welsh mountains, lakes and rivers, provide a wonderful experience for city children. They gather the wild flowers in their season, have rambles along the seashore, and paddle and bathe in the sea as weather permits. Some reached Harlech Castle, some climbed Cader Idris. All had a glimpse of what must be to them almost a different world.

Again thanks are due to the House Mother and the Teachers and Nurses for their hearty co-operation and unstinted help in the organisation and successful working of the School, while appreciative mention should be made of the assistance given by the Head Teachers who in many cases find the clothing for the poorer children to wear.

CITY OF BIRMINGHAM

Education Committee

Appendix to Annual Report

of

School Medical Officer

for the year ended 31st December, 1933.

OFFICIAL TABLES

TABLE II.

A: RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED
31st December, 1933.

Defect or Disease.		Routine Inspections.		Special Inspections.	
		No. of Defects.		No. of Defects.	
		Requiring treatment.	Requiring to be kept under observation, but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation, but not requiring treatment.
(1)		(2)	(3)	(4)	(5)
Skin	Malnutrition	191	376	511	4
	Ringworm :				
	Scalp	3	1	118	4
	Body	4	—	220	1
	Scabies	29	1	480	4
Eye	Impetigo	106	3	3,042	4
	Other Diseases (non-Tuberculous)	312	50	4,254	4
	Blepharitis	159	3	521	1
	Conjunctivitis	42	—	735	1
	Keratitis	4	1	18	—
Ear	Corneal Opacities	9	3	84	8
	Defective Vision (excluding Squint)	2,016	562	2,468	95
	Squint	448	184	498	6
	Other Conditions	35	8	478	—
	Defective Hearing	170	43	368	8
Nose and Throat	Otitis Media	177	9	1,053	4
	Other Ear Diseases	132	81	659	5
	Chronic Tonsillitis only	200	234	296	18
	Adenoids only	228	59	54	2
	Chronic Tonsillitis and Adenoids	2,034	557	1,474	59
Enlarged Cervical Glands (Non-Tuberculous)	Other Conditions	327	83	2,860	40
	Defective Speech	67	115	574	2
	Heart Disease :	102	13	61	3
	Organic	87	38	135	27
	Functional	49	24	35	5
Lungs	Anaemia	520	4	622	1
	Bronchitis	299	22	1,304	2
	Other Non-Tuberculous Diseases	113	14	225	4
	Pulmonary :				
	Definite	6	3	19	5
Tuberculosis	Suspected	20	8	60	11
	Non-pulmonary :				
	Glands	6	4	5	2
	Bones and Joints	3	5	11	1
	Skin	2	—	1	—
Nervous System.	Other Forms	5	—	11	1
	Epilepsy	27	10	71	27
	Chorea	22	4	263	5
	Other Conditions	54	32	63	9
	Rickets	59	18	12	4
Deformities	Spinal Curvature	243	58	64	1
	Other Forms	335	33	424	40
	Other Defects and Diseases (excluding Uncleanliness and Dental Diseases)	1,001	99	13,014	160

B. NUMBER OF *individual Children* FOUND AT *Routine* MEDICAL INSPECTION TO REQUIRE TREATMENT (EXCLUDING UNCLEANLINESS AND DENTAL DISEASES).

Group.	Number of Children.		Percentage of Children found to require treatment.
	Inspected.	Found to require treatment.	
(1)	(2)	(3)	(4)
PRESCRIBED GROUPS :			
Entrants	15,617	3,422	21.9
Second Age Group	13,681	3,127	22.9
Third Age Group	13,263	2,622	19.8
Total (prescribed groups)	42,561	9,171	21.5
Other routine inspections	—	—	—

TABLE III.—RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

			Total.
Blind.		At Certified Schools for the Blind At no School or Institution	38 2
Partially Blind.		At Certified Schools for the Blind At Certified Schools for the Partially Blind	31 114
		At Public Elementary Schools	2
		At other Institutions	3
		At no School	—
Deaf		At Certified Schools for the Deaf	110
Partially- Deaf.		At Certified Schools for the Deaf At Public Elementary Schools	20 1
		At no School	2
Mentally Defective		At Certified Schools for Mentally Defective Children	1349
		At Public Elementary Schools	44*
		At other Institutions	33
		At no School or Institution	1*
Epileptics	Suffering from severe epilepsy.	At Certified Schools for Epileptics At Public Elementary Schools	14 1
		At no School or Institution	3
Physically Defective	Suffering from pulmonary tuberculosis.	At Sanatoria approved by the Ministry of Health	60
		At no School or Institution	10

* Certified as mentally-defective and awaiting admission to Special Schools. There are in addition 312 children in attendance at Public Elementary Schools who have been reported as probably mentally-defective and who await examination.

TABLE III. *Contd.*—RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

Physically Defective.			Total.
	Suffering from non-pulmonary tuberculosis	At Certified Special Schools	73
		At Public Elementary Schools	1
		At other Institutions	36
		At no School or Institution	18
	Delicate Children, <i>i.e.</i> , all children (except those included in other groups) whose general health renders it desirable that they should be specially selected for admission to an Open Air School.	At Certified Special Schools	548
		At Public Elementary Schools	100*
		At other Institutions	12
		At no School or Institution	1
	Crippled Children (other than those with active tuberculous disease) who are suffering from a degree of crippling sufficiently severe to interfere materially with a child's normal mode of life.	At Certified Special Schools	263
		At Public Elementary Schools	382
		At other Institutions	2
		At no School or Institution	25
	Children with heart disease, <i>i.e.</i> , children whose defect is so severe as to necessitate the provision of educational facilities other than those of the public elementary school.	At Certified Special Schools	146
		At Public Elementary Schools	47
		At other Institutions	16
		At no School or Institution	22

* Awaiting admission to Open Air Schools. In addition there are 173 children attending Public Elementary Schools who have been reported for examination with a view to admission to Open-Air Schools.

TABLE IV.—RETURN OF DEFECTS TREATED DURING THE
YEAR ENDED 31ST DECEMBER, 1933.

TREATMENT TABLE.

Group I.—*Minor Ailments* (excluding Uncleanliness, for which see Group VI.)

Disease or Defect (1)	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme. (2)	Otherwise. (3)	Total. (4)
<i>Skin—</i>			
Ringworm-Scalp (Number treated by X-rays shown in brackets)	118 (56)	13	131
Ringworm-Body Scabies Impetigo Other skin disease	234 445 2,908 3,751	6 24 31 122	240 469 2,939 3,873
<i>Minor Eye Defects</i> (External and other, but excluding cases falling in Group II.).	1,719	162	1,821
<i>Minor Ear Defects</i>	2,255	156	2,411
<i>Miscellaneous</i> (e.g., minor injuries, bruises, sores, chilblains, etc.).	7,458	462	7,920
Total	18,888	916	19,804

TABLE IV. (Contd.)

Group II.—*Defective Vision and Squint* (excluding Minor Eye Defects treated as Minor Ailments—Group I.).

Defect or Disease.	Number of defects dealt with			
	Under the Authority's Scheme.	By private practitioner or at hospital, apart from the Authority's Scheme.	Otherwise.	Total.
(1)	(2)	(3)	(4)	(5)
Errors of Refraction (including Squint but excluding operations for Squint).	3,691	395	91	4,177
Other Defect or Disease of the eyes (excluding those recorded in Group I.).	12	12	1	25
Total	3,703	407	92	4,202

Total number of children for whom spectacles were prescribed

(a) Under the Authority's Scheme..... 3,413

(b) Otherwise 382

Total number of children who obtained or received spectacles

(a) Under the Authority's Scheme..... 3,393

(b) Otherwise 377

Group III.—*Treatment of Defects of Nose and Throat.*

Number of Defects.

Received Operative Treatment.												Received other forms of Treatment.	Total number treated.
Under the Authority's Scheme, in Clinic or Hos- pital.				By Private Practitioner or Hospital, apart from the Authority's Scheme.				Total.					
(1)				(2)				(3)					
(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(4)	(5)
4	1	1,383	66	38	33	407	29	42	34	1,790	95	2,153	4,114

(i) Tonsils only. (ii) Adenoids only. (iii) Tonsils & Adenoids. (iv) Other defects.

TABLE IV. (*Contd.*)*Group IV.—Orthopædic and Postural Defects.*

	Under the Authority's Scheme			Otherwise.			Total number treated.
	(1)			(2)			
	Residential treatment with education. (i)	Residential treatment without education. (ii)	Non-residential treatment at an orthopaedic clinic. (iii)	Residential treatment with education. (i)	Residential treatment without education. (ii)	Non-residential treatment at an orthopaedic clinic. (iii)	
Number of children treated.		Complete	data not	available.			

Group V.—Dental Defects.

(1) Number of Children who were :—

(i) Inspected by the Dentist :

Aged :

Routine Age Groups	5	12,656	Total 127,235
	6	12,761	
	7	13,316	
	8	13,903	
	9	14,507	
	10	14,545	
	11	15,768	
	12	15,400	
	13	13,469	
	14	910	

Specials 175

Grand Total 127,410

(ii) Found to require treatment 89,481

(iii) Actually treated 40,867

(2) Half-days devoted to { Inspection 578 } Total 3,581
 { Treatment 3,003 }

(3) Attendances made by children for treatment 49,059

(4) Fillings { Permanent teeth 18,773 } Total 20,583
 { Temporary teeth 1,810 }

(5) Extractions { Permanent teeth 21,913 } Total 107,160
 { Temporary teeth 85,247 }

(6) Administrations of general anaesthetics for extractions 19,949

(7) Other operations { Permanent teeth 3,156 } Total 8,614
 { Temporary teeth 5,458 }

Group VI.—Uncleanliness and verminous conditions.

- (i.) Average number of visits per school made during the year by the School Nurses.....12,82.
- (ii.) Total number of examinations of children in the Schools by School Nurses.....446,880
- (iii.) Number of individual children found unclean.....15,143.
- (iv.) Number of children cleansed under arrangements made by the Local Education Authority.....154.
- (v.) Number of cases in which legal proceedings were taken :
 - (a) Under the Education Act, 1921.....Nil.
 - (b) Under the School Attendance Bye-laws 58.

SECONDARY SCHOOLS

AND

OTHER INSTITUTIONS FOR HIGHER EDUCATION

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

NUMBER OF CHILDREN INSPECTED 1ST JANUARY, 1933, TO 31ST DECEMBER, 1933

Number of Routine Medical Inspections	.....	.....	.....	.....	.....	6,423
Number of Special Medical Inspections	.....	.....	.....	.....	.....	169
Number of Re-inspections	.....	.....	.....	.....	.....	483
Total						<u>7,075</u>
Number of Individual Children found to require Treatment.....	.....	.....	.....	.....	.....	1,393
Percentage of Children found to require Treatment	.....	.....	.....	.....	.....	19.7

TABLE II.

A. RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED
31ST DECEMBER, 1933.

Defect or Disease.		Routine Inspections.		Special Inspections.	
		No. of Defects.		No. of Defects.	
		Requiring treatment.	Requiring to be kept under observation, but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation, but not requiring treatment.
(1)		(2)	(3)	(4)	(5)
Skin	Malnutrition	9	13	1	—
	Ringworm :				
	Scalp	—	—	—	—
	Body	—	—	—	—
	Scabies	—	—	—	—
Eye	Impetigo	2	—	2	—
	Other Diseases (non-Tuberculous)	53	7	4	—
	Blepharitis	31	—	3	—
	Conjunctivitis	5	—	1	—
	Keratitis	—	—	—	—
Ear	Corneal Opacities	—	—	—	—
	Defective Vision (excluding Squint)	572	376	19	4
	Squint	8	11	4	—
	Other Conditions	7	2	—	—
	Defective Hearing	17	4	1	—
Nose and Throat	Otitis Media	11	5	—	—
	Other Ear Diseases	7	—	2	1
	Enlarged Tonsils only	21	28	2	2
	Adenoids only	3	1	1	—
	Enlarged Tonsils and Adenoids	92	50	5	1
Other Conditions		93	8	—	—
Enlarged Cervical Glands (Non-Tuberculous)		2	1	—	—
Defective Speech		20	1	—	—
Teeth—Dental Diseases		648	—	12	—
(See Table IV., Group IV.).					
Heart and Circulation	Heart Disease :				
	Organic	11	16	1	3
	Functional	11	14	—	1
	Anaemia	54	2	2	—
	Bronchitis	19	4	2	—
Lungs	Other Non-Tuberculous Diseases	7	1	—	—
	Pulmonary :				
	Definite	—	—	—	—
	Suspected	—	2	1	1
	Non-pulmonary :				
Tuberculosis	Glands	—	1	—	—
	Spine	—	1	—	—
	Hip	—	—	—	—
	Other Bones and Joints	—	—	—	—
	Skin	—	—	—	—
Nervous System	Other Forms	—	1	—	—
	Epilepsy	—	1	1	—
	Chorea	1	—	4	2
	Other Conditions	3	2	3	—
	Rickets	1	1	—	—
Deformities	Spinal Curvature	109	36	2	—
	Other Forms	95	20	7	1
Other Defects and Diseases		128	40	36	7

